

# ANNALS OF INTERNAL MEDICINE

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VOLUME 43

DECEMBER, 1955

NUMBER 6

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## THE CONCEPT OF ESSENTIAL HYPERTENSION \*

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I NEED hardly stress to you the importance of concepts in medicine. These concepts determine our whole attitude to the management of the disease and thus, in large measure, the fate of our patients. Nevertheless, it is important to realize that concepts of disease are in the nature of scientific hypotheses; they are necessary expedients in the search for knowledge, but they are useful only so long as they accord with the facts. Once they cease so to accord, they should be discarded and replaced by some other idea that does. It is my present purpose to show that the current concept of essential hypertension as a specific disease entity does not accord with the facts and should be discarded.

Current practice divides the phenomena of disease into a number of clinical or morbid entities. Each of these we think of as having certain more or less well defined characteristics, as representing some specific change in the biochemical or physical state of the body, and as arising through a particular reaction between inheritance and environment. These ideas are expressed in the way we diagnose and treat disease, and in the classification of disease which we use as the skeletons of our textbooks.

I need not trace for you, in detail, the evolution of our present classification and concept of hypertension. It will suffice to remind you that measurement of arterial pressure became common practice only in the present century, though clumsy and inaccurate sphygmomanometers were in use as research instruments for the last half of last century. In the last century, high blood pressure was known and inferred largely from the dead-house. It was at first seen exclusively as one of the manifestations of Bright's disease of the kidneys, or as a manifestation of arteriosclerosis. Thus, of the four pioneers who, in the nineteenth century, recognized what we now call essential hypertension, Mahomed talked about Bright's disease, von Basch

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\* From the Symposium on Hypertension, presented at the Thirty-sixth Annual Session of The American College of Physicians, Philadelphia, Pennsylvania, April 27, 1955.

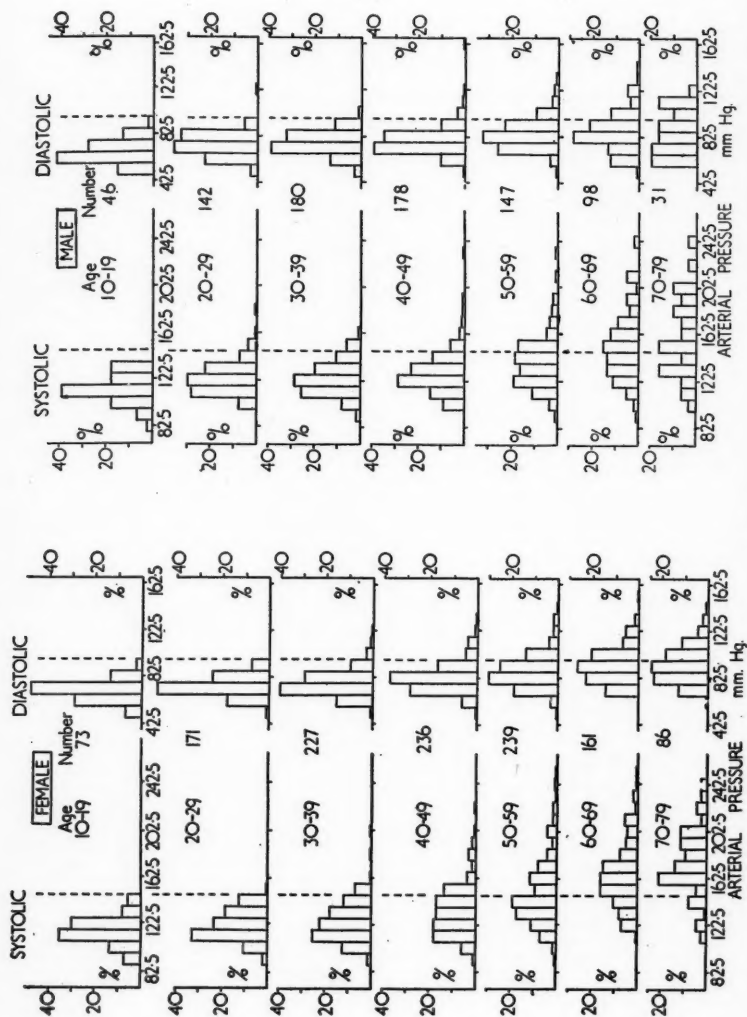


Fig. 1.



of latent arteriosclerosis, and Huchard of presclerosis; only Allbutt was bold enough to go outside and invent a new word, hyperpiesia. Even Volhard and Fahr's classification of 1914, which has formed the basis of all subsequent classifications, was a classification of Bright's disease.

The classification of hypertension now commonly used contains a number of conditions, such as glomerulonephritis, pyelonephritis and Cushing's syndrome, with positive attributes, and one, essential hypertension, which is defined by exclusion on its negative attributes. Some have doubted whether essential hypertension represents a clinical entity comparable to these other diseases. However, the way in which the idea is commonly manipulated shows the general acceptance of the concept that essential hypertension represents a specific morbid entity with a unique cause. Thus, it is current practice to make a sharp division between normal blood pressure and hypertension, though opinions have differed as to where the line should be drawn, and every pair of whole numbers has been suggested, from 120/80 to 180/110. Second, it is customary to divide the course of the disease into three phases: prehypertension, when blood pressure is high for the age but does not under ordinary circumstances cross the fateful line; labile hypertension, when the blood pressure is sometimes above, sometimes below the line; and fixed hypertension, when it is always above the line. Third, trends of blood pressure in individuals over years are expressed in terms of presence or absence of hypertension. Fourth, most genetic studies have been made in terms of the presence or absence of hypertension. Finally, there has been a strong tendency to assume that, whatever the basic fault in essential hypertension, it is the same in all cases.

I am persuaded by the evidence that this view is wrong, and I would like to lay before you a different concept of essential hypertension, with an outline of the evidence on which it is based.

My first point is that the practice of making a sharp division between normal and pathologically high pressure is entirely arbitrary and is in the nature of an artefact. Essential hypertension represents the upper end of a distribution curve showing continuous variation, with no definite evidence of two populations. Figure 1 shows the frequency distribution curves for ages arranged in decades of the population sample investigated by Hamilton, Roberts, Sowry and myself.<sup>1</sup> The dotted lines show one of the most common of these arbitrary divisions, namely, 150/100 mm. of Hg. There is no natural division at this or at any other level. The upper ends of the

FIG. 1. Frequency distribution of systolic and diastolic blood pressure for males and females of the population sample arranged by age in decades. The histogram shows the percentages having a given range of pressure. Since in the range of pressure 50-59 there were only two sets of readings, at 50 and 55, the center of this range has been shown as the mean of the two readings, namely, at 52.5 mm. Hg, and similarly throughout the blood pressure scale. The numbers of subjects in each decade are shown in the center.

Dotted lines have been drawn to indicate the most common current practice of distinguishing between normal pressure and hypertension, the latter including systolic pressures of 150 mm. Hg or over, and diastolic pressures of 100 mm. Hg or over. It will be seen that there is no natural division at this or any other line. (Hamilton, Pickering, Roberts and Sowry, Clin. Sc. 13: 1, 1954.)

distribution curves represent the most common forms of so-called hypertension, namely, essential hypertension, and in the older age groups it really is very common, comprising half or more of the population. These curves illustrate many features of the natural history of essential hypertension that are already well known. Thus, it is uncommon in the young; in youth, severe hypertension is nearly always secondary. Its frequency increases

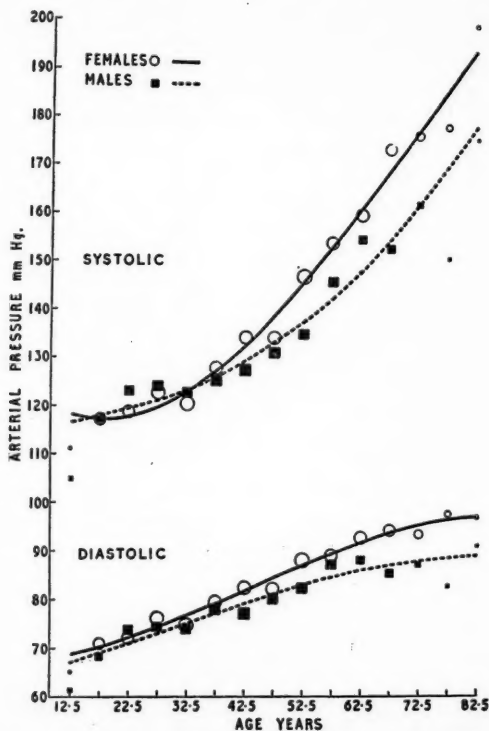


FIG. 2. Systolic and diastolic pressures for females (open circles) and males (black squares) for each 5-year age group of the population sample, together with the fitted curves. The area of each circle or square is proportional to the number of subjects in that age group. (Hamilton, Pickering, Roberts and Sowry, Clin. Sc. 13: 1, 1954.)

with age because, as these figures show, arterial pressure tends to rise with age, and more in some subjects than others. The rise with age is clearly shown in figure 2.

We must now consider the other arguments that have been advanced for distinguishing normal and pathologic pressures. These arguments are three. First, Master, Dublin and Marks suggested that figures above the

mean plus twice the standard deviation could be regarded as abnormal. This is common statistical practice but, as they also point out, the device is again purely arbitrary, as it does not necessarily represent a natural division. Second, it has been suggested that for blood pressure to rise with age is abnormal, and Robinson and Brucer<sup>2</sup> have suggested that such a rise occurs only in subjects whose pressures exceed 120/80 mm. of Hg. Figure 1 shows that, while it is possible that blood pressure does not rise with age in some subjects, this fraction must be small and would scarcely merit the term "abnormal." It may be remarked here in parenthesis that there is much confusion as to current usage of the word "normal." Some use it to mean that which is most common; others, to mean perfection. Some regard death as abnormal; this would imply that the normal, immortality, has never yet been achieved. Normality in this sense is a pure fantasy, like the God-world of the ancient Greeks. The third argument is that, above a certain pressure, expectation of life is diminished. The figures published by the Actuarial Society of America<sup>3</sup> show, however, that the rise of mortality with rise of pressure is continuous from the lowest readings to the highest; there is no sudden break. Bechgaard's<sup>4</sup> figures for the follow-up of 1,000 subjects with essential hypertension for a period of from 16 to 22 years show that the relationship between blood pressure and expectation of life continues into the so-called hypertensive range. This excess of deaths, at least in the lower ranges, is largely due to cardiovascular renal disease and, when the ratio of deaths due to cardiovascular renal disease is plotted against the arterial pressure, it is seen again that there is no sudden break in the relation between the variables.

All these arguments thus suggest that there is no justification for a division of arterial pressures into normal and pathologically high, and that it is the height of the pressure that matters. In fact, arterial pressure seems to behave as a graded characteristic: the differences between the lower pressures and the higher are quantitative, not qualitative; they are differences of degree, not of kind. This conclusion is exactly that which was reached from our study of the genetic basis of hypertension.<sup>5</sup> This study suggested strongly that blood pressure is inherited as a graded characteristic, and that the features of this inheritance are the same in the lower as in the upper ranges of arterial pressure.

Hamilton, Roberts, Sowry and I concluded that the factors concerned in the pathogenesis of essential hypertension are those concerned in determining arterial pressure in the population at large.<sup>1</sup> Of these, we have specified the influence of age and the influence of inheritance.<sup>5</sup> The part played by the different environmental factors, which would seem to be of the utmost importance, remains to be determined.

If, then, the differences between normal blood pressure and essential hypertension are quantitative and not qualitative, it may be asked whether there is any justification for retaining the term and idea of essential hyper-

tension. Provided we are under no illusions about what we mean, I think that the concept of essential hypertension is a useful one, because, as we have seen, the higher ranges of blood pressure carry progressively increasing hazards to well being and life, particularly from cardiovascular renal disease.

I would like now to look at the clinical aspect more closely to see how it accords with the notion that arterial pressure behaves as a graded characteristic. Ever since the time of Volhard and Fahr it has been recognized that essential hypertension behaves in two contrasting ways. In the first, or benign, course, the condition is stable for long periods, and death, when it comes, is due to heart failure in about half, to cerebral vascular disease in about a fifth, and to intercurrent disease in the remainder. In the second, or malignant, course, distinguished clinically by what used to be called albuminuric retinitis and what is now commonly termed hypertensive neuroretinopathy, the course is rapidly progressive to death from renal failure in about a year. I have long been persuaded that the differences between the benign and malignant courses are chiefly consequences of differences in the intensity of hypertension. The observations which led to this view have been presented previously.<sup>6</sup> Here, I will merely summarize the clinical evidence. First, it is general experience that, on the whole, those patients with malignant hypertension tend to have the higher pressures. There are two qualifications, namely, that patients with a recent hypertension, such as pregnancy toxemia or acute nephritis, may enter the malignant phase at a lower pressure than those with prolonged hypertension, and that both the retinal lesions and fibrinoid necrosis may be found in disseminated lupus and polyarteritis nodosa at normal pressures. Second, the malignant phase may occur in any form of hypertension, e.g., pyelonephritis or Cushing's syndrome, provided it is sufficiently severe. Third, there is now overwhelming evidence that the malignant phase may be reversed to the benign phase by any therapeutic measure that reduces the arterial pressure sufficiently for sufficiently long. This is true whether the malignant phase be engrafted on essential hypertension, pyelonephritis, Cushing's syndrome or other malady, and whether the remedy be pyrogens, salt-poor diet, sympathectomy, adrenalectomy or nephrectomy, or the use of the now numerous hypotensive drugs.

The malignant phase of hypertension forms a compact clinical group because it reflects a well defined vascular lesion, acute fibrinoid arteriolar necrosis, with a relatively well defined cause. By contrast, the benign phase is extremely heterogeneous and merges imperceptibly into the population at large. This is true because the chief vascular abnormalities of the benign phase are found also in those subjects with lower pressures, though they are probably less frequent and less severe, and carry a smaller hazard. The chief risk, heart failure, is probably, at least in part, a consequence of the height of the arterial pressure, for there is now little doubt that, if an initially grossly raised arterial pressure is lowered by sympathectomy or hypotensive drugs, the heart failure may resolve. Atheroma and medial degenerations

that are the chief causes of coronary occlusion, cerebral hemorrhage, cerebral thrombosis and dissecting aneurysm are lesions which occur in patients with lower pressures. Moreover, it would seem probable that these hazards persist when arterial pressure is lowered by hypotensive drugs. The arterial lesions of the benign phase more specifically associated with hypertension, namely, elastosis and fatty hyaline thickening of arterioles, have not been produced experimentally, but may represent the effects of high blood pressure; their clinical consequences would, however, seem relatively unimportant.

In commenting on the clinical features of essential hypertension, I would like to make the following points. My first is that arterial disease and high blood pressure are phenomena of different orders and should not be confused. In making an earnest plea that the nature of high blood pressure and of arterial disease be carefully separated, and in putting forward the view that, as far as pressure is concerned, it is the height that matters, I do not intend to imply that arterial disease is unimportant. Arterial disease is, in most of us, of much greater moment than the height of the arterial pressure. But its study presents a peculiar difficulty, namely, that of determining its presence, extent and type prior to the occurrence of vascular catastrophe or the death of the patient. My second point is that the important arterial lesions in the benign phase of hypertension also occur in patients with lower blood pressures, though perhaps less frequently and less severely. Third, the intensity of the hypertension is clearly a factor in the production of hypertensive heart failure. Fourth, the phenomena of the malignant phase are consequences of an extremely severe hypertension. I submit, therefore, that a study of the clinical features of essential hypertension supports the idea that blood pressure behaves as a graded characteristic, increasing the severity or the risk of certain disorders of large arteries, increasing the load on the heart and, when it exceeds a certain threshold, precipitating acute fibrinoid arteriolar necrosis, which is the basis of the malignant phase.

For the concept of essential hypertension as a specific morbid entity, I would ask you to consider substituting the notion of arterial pressure as a graded characteristic, the resultant of the interplay of inheritance, age and environment; of normal blood pressure, benign essential hypertension and malignant hypertension as a continuum and not three separate entities; of arteriosclerosis as a collection of quite separate morbid entities, some of which occur at all levels of pressure but which seem to carry greater risks as pressure rises, and one of which, acute fibrinoid necrosis, is the consequence of the raised arterial pressure itself.

#### SUMMARIO IN INTERLINGUA

Hypertension es definite per characteristics negative e es identificate per exclusion. Illo representa un gruppo de individuos con elevate pression sanguinee sin discoperibile lesion causal. A causa del practica de differentiar normotension e

hypertension sanguinee, le concepto se ha disveloppate que hypertension essential es un specific entitate pathologic con un sol e unic causa. Hypotheses in re le natura de ille causa es numerose e ben cognoscite.

Le examine del evidential al base del concepto currente demonstra que iste concepto es non-justificate. In le population in general, curvas distributional del frequentia del nivellos de pression sanguinee monstra un variation continue e non discrete. Le factos observate non justifica le distinction de duo populationes super le base del pression sanguinee. Secundemente, le pression sanguinee accresce con le avantiamento del etate, e iste accrescimento es plus in certe individuos que in alteres. Si il existe un gruppo in que le pression sanguinee non accresce con le avantiamento del etate, il debe tractar se de un gruppo inconsiderabile, e designar lo como "normal" esserea un estranie uso de iste termino. Tertiemente, a omne etate le supervivencia probabile varia inversemente con le pression arterial. Etiam in isto il non ha saltos abrupte. Finalmente, il ha forte provas a indicar que le phase maligne es un consequentia directe del intensitate de hypertension e del rapiditate con que le pression sanguinee se ha elevate. In particular, le phase maligne pote esser revertite al phase benigne per qualcunque medio therapeutic que reduce le pression sanguinee satis marcatamente e satis longemente. Assi le differentia inter normotension del sanguine e le phases benigne e maligne de hypertension essential es fundamentalmente de character quantitative e non qualitative. Un differentia qualitative emerge secundarimente in le phase maligne, proque su base anatomic—acute necrosis fibrinoide del arteriolas—es un consequentia de que un certe nivello de pression arterial es attingite con un certe rapiditate critic. Per contrasto con isto, le lesiones arterial del phase benigne occurre a omne nivellos de pression arterial, ben que il es ver que con pressioness inferior etiam lor risco es inferior.

Hypertension essential representa probabilemente nihil altere que le extremitate superior del curva de distribution del frequentias de pression sanguinee in le population in general. Su factores etiologic pare esser factores que affice le population in general, i.e. etate, hereditate, e milieu. Inter istos, le influentia del etate es illustrate in le presente articulo. Le influentia de hereditate ha essite discutate separatemente. Le influentia del milieu es ancora a clarificar, sed il pare, per exclusion, que illo es quantitativamente plus importante que le influentia de hereditate.

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## THE EVALUATION OF ANTIHYPERTENSIVE PROCEDURES, WITH PARTICULAR REFERENCE TO THEIR EFFECTS ON BLOOD PRESSURE\*

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SUPPOSE, then, a physician who has a hundred patients prescribes to each of them pills made of some entirely inert substance as starch, for instance. Ninety of them get well, or if he chooses to use such language, he cures ninety of them. It is evident, according to the doctrine of chances, that there must be a considerable number of coincidences between the relief of the patient and the administration of the remedy. It is altogether probable that there will happen two or three *very striking* coincidences out of the whole ninety cases, in which it would seem evident that the medicine produced the relief. . . . Now suppose that the physician publishes these cases, will they not have a plausible appearance of proving that which, as we granted at the outset, was entirely false.

Oliver Wendell Holmes, M.D., in *Homeopathy and kindred delusions*, Medical Essays, 1883, Houghton and Mifflin, Boston and New York.

The *post hoc ergo propter* process described by the Autocrat has dominated therapy in hypertension until recently. Its products still influence practice and adorn reputable journals with costly advertisements of expensive mixtures whose saving grace is usually a modicum of phenobarbital. It has enriched a list of some hundreds of reputed antihypertensive drugs, among which those that are active could be counted on the fingers of one hand. The aim of this paper is to describe safeguards we use against this fallacy.

1. *Orientation*: We are not here concerned with acute pharmacologic tests and brief clinical experiments which are necessary preliminaries to the classification of a drug or procedures as potentially antihypertensive. Rather, we shall deal with chronic hypertensive states, particularly, essential hypertension. This term is used to describe the syndrome (of unknown, presumably multiple origin) which is characterized by variably and persistently increased arterial pressure and which evolves through months or years of slowly or rapidly progressive cardiovascular disease. An agent can be considered antihypertensive only if it can slow or arrest, perhaps even reverse this process by restoring arterial pressure towards normal. Hence, a basic step in the evaluation is to obtain reliable estimates of its effect on blood pressure and to associate these data with observations on the vascular disease.

\* From the Symposium on Hypertension, presented at the Thirty-sixth Annual Session of The American College of Physicians, Philadelphia, Pennsylvania, April 27, 1955.

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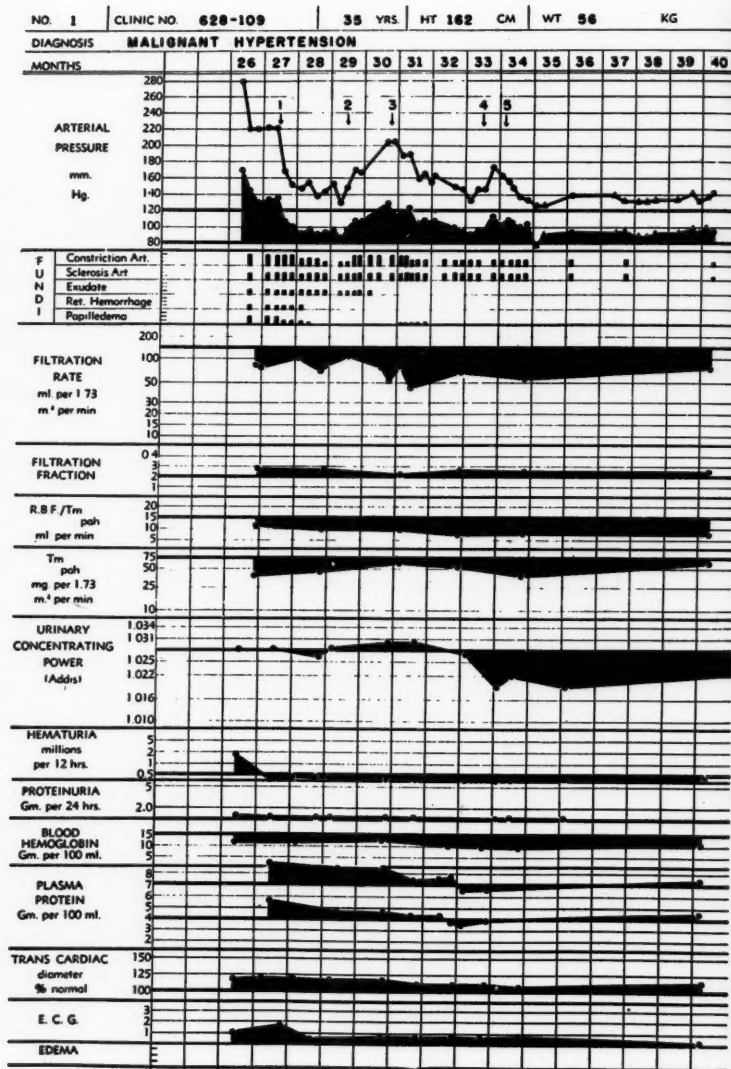


FIG. 1.



Such estimates are variously made. Since single readings of blood pressures are often widely variable, attention is sometimes paid to the extremes or ranges observed over some period of days or weeks, to the mean, an average of a series of readings, or to the median, which is the center or midpoint of a series of observations arranged numerically.

2. The "Long Chart": The prolonged study required for an evaluation imposes the mechanical burden of reviewing and correlating trends of large numbers of observations. Hospital charts of such patients become intolerably bulky in time. Further, since their data are arranged by categories and not sequentially, an investigation is often marred by omission of some important, although routine observation. For these reasons we have found it necessary to plot essential data graphically, so that a glance will indicate directions and relations of the data and will also draw attention to any inadvertently omitted.

The chart we use derives from that used by Dr. D. D. Van Slyke and his associates<sup>1</sup> in their study of Bright's disease. Ours (figure 1) is modified by its emphasis on factors in hypertension.

These factors can be grouped into four panels, dealing, respectively, with blood pressure, cerebral, cardiac and renal status. The renal panel lends itself best to objective evaluation. The Addis concentration test (when not contraindicated by azotemia) and sediment count, together with the urea clearance, provide adequate routine estimates of the presence and severity of nephrosclerosis and, for closer study, may be supplemented by measurements of renal blood flow, glomerular filtration rate and tubular excretory capacity.<sup>2</sup> The cardiac panel is assessed in terms of presence and degree of cardiac failure, of cardiac enlargement by x-ray and of electrocardiographic abnormality. The cerebral panel, as concerns latent disease, cannot be measured objectively. For example, cerebral blood flow is not easily measured and is only decreased in hypertensive patients who already have manifest signs of cerebrovascular damage.<sup>3</sup> We have therefore given numerical status to the subjective manifestations of recurrent morning headache, fleeting paresthesias and paralyses as evidence of early or latent damage, and a higher rating to signs of old or recent stroke. With more objectivity, we have incorporated estimates of retinal vascular and fundal change to complete the cerebral panel.

FIG. 1. Graphic "Long Chart" to demonstrate condensation of data relevant to hypertensive disease over 14 months of observation. The blood pressure record is in open circles for casual readings; closed circles, representing weekly means of hospital readings; and open triangles for weekly means of pressures measured at home. The data are graphed from the normal average as points of reference.

Each space along the abscissa corresponds to one month. The two open spaces prior to the first observation charted in this case were left for the insertion of data which it was hoped would be made available from earlier examinations. Arrows indicate changes in the régime; thus, 1 indicates beginning and 2 the end of treatment with a bacterial pyrogen, and 3 and 4 indicate the beginning and end of another like course; 5 indicates beginning of treatment with hydralazine.

The chart in use embodies blank spaces for the graphing of other relevant data (e.g., body weight in patients with edema) omitted in this illustration.

Addition to the renal, cardiac and cerebral estimates of a numerical value assigned to levels of arterial pressure completes the Severity Index, which has been described elsewhere.<sup>4</sup> It has been most useful in evaluating antihypertensive procedures. However, paradoxically, the easiest measurement which enters into the Index, that of blood pressure, is one of the most difficult to grade critically. The substance of this report is concerned with this measurement.

3. *Placebos*: Before developing this topic, note is made of placebos. Their place in therapy is attested to by the variety of vaso-inactive preparations consumed by hypertensive patients, often with evident relief. Thus, garlic—more calculated to relieve social than arterial pressure—continues to be offered for its “symptomatic” effect. Placebo medication involves aspects of mild psychotherapy and of the patient-physician relationship which can be definitely therapeutic.<sup>5</sup> Hence, the placebo effect cannot be discounted, and the data collected below have involved the use of placebos. Unfortunately, a true “blind” test is almost impossible, since there is no adequate simulacrum of a potent vaso-active drug. The patient who knows the side-effects of a drug from his own experience will view their disappearance during placebo medication with suspicion; if he is taking his blood pressures at home, he may watch the increase in levels with a terror which it is hardly justifiable to inflict on the more imaginative. Placebo effects are therefore usually determined before, rather than at random during, administration of the corresponding drug.

4. *Casual Blood Pressures*: The distinction between casual and basal blood pressures and the lability of the former is now familiar. However, few would insist on, or find it easy to obtain, true basal measurements. Further, in a minority of patients the morning, presumably basal pressures are consistently higher than those measured at rest in the late afternoon or evening; these reverse the usual diurnal trend, and cast some doubt on the representative character of basal pressures. We are accustomed to use readings made by the physician after 10 or 20 minutes of physical rest, in the sitting or semirecumbent position. These we term “casual, resting” pressures. Readings made twice daily by skilled nurses from hospital patients are often considerably lower than these casual pressures. The difference is not due wholly to lack of basal conditions, since, as noted, basal pressures are sometimes higher than afternoon casual resting readings. The major difference is psychogenic. The patients may fear the threatening appraisal a physician may place on the measurement, which the nurse will not. That it is not fear of the sphygmomanometer as such was shown by a young woman whose pressures had been measured by nurses twice daily in the hospital for nearly a year, at the end of which weekly means of the pressures were about 160/100 mm. Hg. This level was also reached during direct recording of intra-arterial pressure with an electrical manometer. However, during this recording a physician measured pressure by auscultation several

times; on each occasion the pressure rose to about 230/120, from which it resumed its former level between these readings.

The inadequacy of casual pressures in testing responses to a drug was previously noted<sup>6</sup> with regard to responses to hydralazine in patients whose favorable responses to the drug were not apparent from their records of casual pressure. Figure 2 exemplifies this further. In this patient the mean of casual pressures taken twice weekly *during* treatment was higher than weekly means of hospital pressures before treatment; however, the

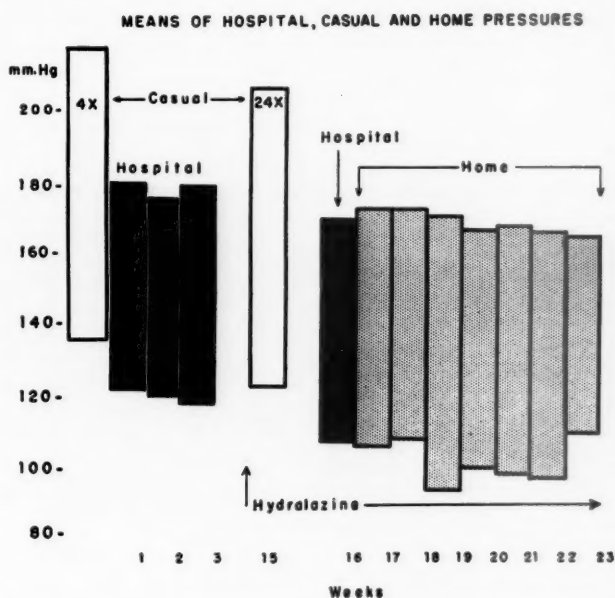


FIG. 2. Data from a patient demonstrating differences between averages of casual readings of blood pressure (open bars), hospital readings (closed bars), and home readings (cross-hatched bars) before and during treatment with hydralazine.

pretreatment means exceeded means of post-treatment hospital and home pressures, demonstrating a therapeutic response.

The association between casual pressures and means of hospital and home pressures was compiled from records of three groups of patients who received, respectively, no medication or placebos, reserpine or hydralazine. These data are condensed in table 1. In each situation, casual pressures were found, on the average, to exceed the weekly means of pressures measured twice daily either in hospital or at home; neither drug suppressed the difference between casual pressures and pressure means.

That the averages of clinic readings commonly exceed home readings was previously described in untreated patients by Ayman and Goldshine<sup>7</sup> and is confirmed above. It could be argued that data from casual pressures in any one patient would have at least comparative value in therapeutic evaluation if the differences between casual readings and means of hospital or home readings were constant for any individual. This does not seem to be often the case. While some individuals in our group, as in that of Ayman and Goldshine, tended more consistently than others to high clinic readings, there was considerable variation in most, and 26 of the 104 casual measurements of diastolic pressure were lower than the concurrent means.

The instability of casual readings and the relative stability of means of home or hospital pressure readings, demonstrated below, have impelled us to use these means rather than estimates based on casual resting pressures in evaluating the effects of treatment on blood pressure.

TABLE 1  
Comparison of Casual Readings with Means of Home and Hospital Pressures\*

Condition of the Test	Number of Patients	Number of Observations	Difference Casual-Mean S/D Means mm. Hg	Ranges of Differences	
				Systolic mm. Hg	Diastolic mm. Hg
Office					
No treatment	8	21	+22/14	+47 to -6	+40 to -7
Reserpine	9	22	+16/10	+58 to -8	+33 to -8
Hydralazine	11	42	+21/14	+70 to -23	+47 to -10
Hospital	12	19	+28/9	+56 to -12	+36 to -14

\* Comparison of casual resting readings of blood pressure with means of home and hospital pressures in groups of patients with essential hypertension. In each observation the difference was found between the casual reading made during one week and the mean of pressures during that week; column 4 lists the means of these differences and column 5 their ranges.

5. *Means of Blood Pressure in Hospital:* Means of hospital readings would be accepted as the data desired if they could be shown to be representative and relatively stable.

The means would be representative if (a) they were shown to center in the range of the pressures which make up the mean, so that they corresponded fairly well with the median; and (b) if they showed at least a general correlation with the severity of the hypertensive process.

As concerns the first point, data assembled in table 2 show that means of readings made twice daily by nurses during the first week of hospitalization are approximately central in the ranges of these readings. By enumeration, they were found also to correspond to median values. In table 2, as in table 3, the data are distributed in two groups of patients, the one (Nos. 1 to 15) presenting the syndrome of malignant hypertension, and the other (Nos. 16 to 31) with hypertensive disease which was considered, by other measures, severe or moderate in degree. Inspection of the means

in the two groups in table 2 shows a general tendency toward higher pressure means in the first as compared with the second group of patients, although there is a moderate overlap. This general association of higher pressures with a more destructive hypertensive disease accords with the view that the weekly mean of pressures is a representative datum.

TABLE 2  
Means and Ranges of Pressures Measured during First Week in Hospital\*

Patient No.	Mean of Pressure	Ranges of Pressures		Mean Percentile Variations	
		Systolic	Diastolic	Systolic	Diastolic
1	198/131	212 to 170	150 to 110		
2	215/146	240 to 194	160 to 124		
3	227/158	270 to 210	180 to 140		
4	218/153	260 to 184	190 to 140		
5	194/132	220 to 160	170 to 110		
6	239/144	270 to 200	190 to 138		
7	237/137	262 to 190	150 to 124		
8	213/136	230 to 186	150 to 110		
9	202/140	234 to 180	150 to 130		
10	186/129	212 to 170	150 to 118		
11	208/128	230 to 168	148 to 100		
12	202/123	240 to 178	144 to 110		
13	186/131	220 to 162	156 to 116		
14	178/122	248 to 150	150 to 118		
15	214/137	234 to 156	162 to 124		
1-15				+14 to -14	+16 to -12
16	180/123	200 to 160	130 to 106		
17	191/125	234 to 178	146 to 110		
18	173/107	200 to 156	130 to 90		
19	178/122	220 to 146	142 to 90		
20	183/116	200 to 154	140 to 90		
21	207/127	254 to 180	150 to 112		
22	213/133	240 to 176	140 to 120		
23	165/107	178 to 130	112 to 90		
24	195/141	210 to 180	158 to 120		
25	199/117	240 to 150	160 to 110		
26	208/145	242 to 196	158 to 118		
27	193/137	246 to 160	150 to 118		
28	214/137	250 to 184	160 to 130		
29	172/121	210 to 150	130 to 110		
30	166/119	184 to 150	136 to 110		
31	210/121	240 to 170	150 to 110		
16-31				+14 to -14	+15 to -13

\* Means and ranges of arterial pressures during first week of hospitalization in patients 1 to 15 with severe or malignant hypertension, and patients 16 to 31 with less severe disease. The percentile variations of systolic and diastolic pressures from the means were calculated and the means of these data are listed for the two groups of patients.

Contrary to the impression that there is a "fixed" stage of hypertension, such that it becomes less fluctuant as it becomes more severe, the average percentile ranges of variation of both systolic and diastolic pressure are the same in the two patient groups.

The stability of the mean of pressures among untreated hospitalized

patients is demonstrated in table 3. This table lists successive means for three or, in half the cases, for four weeks. The data, as in table 2, are divided into the two groups; each group shows equal decrements of pressure from the first to the second week; the means in both groups are nearly

TABLE 3  
Successive Weekly Means of Pressures in Hospital of Untreated Patients\*

Patient No.	Means of Pressures by Weeks			
	1st	2nd	3rd	4th
1	198/131	196/131	202/130	
2	215/146	203/130	202/131	214/144
3	227/158	217/148	207/152	223/152
4	218/153	207/154	204/150	218/153
5	194/132	190/129	201/132	
6	239/144	230/145	218/141	
7	237/137	225/129	202/120	202/121
8	213/136	211/137	205/130	195/128
9	202/140	190/128	203/139	204/130
10	186/129	181/121	193/120	183/129
11	208/128	197/134	196/134	199/139
12	202/123	293/123	198/120	
13	186/131	174/123	190/130	
14	178/122	164/111	174/118	181/124
15	214/137	187/125	187/124	191/125
Means 1-15	208/137	200/132	200/132	
Differences		-7/-5	+0.2/+0.1	
16	180/123	176/121	179/119	
17	191/125	190/124	196/111	196/107
18	173/107	164/103	169/102	166/102
19	178/122	164/111	174/118	180/124
20	183/116	168/110	171/115	
21	207/127	190/119	190/127	
22	213/133	201/126	199/123	
23	165/107	162/109	156/107	
24	195/141	188/128	197/132	
25	199/117	186/117	192/117	
26	208/145	220/148	226/147	
27	193/137	188/130	183/128	175/124
28	214/137	187/125	187/124	191/125
29	172/121	174/117	177/118	
30	166/119	162/118	161/118	155/110
31	210/121	202/118	200/121	
Means 16-31	191/125	183/120	185/121	
Differences		-8/-5	+2/+0.4	

\* Means of pressure in patients as listed in Table 2, stated for successive weeks of hospitalization without medication or with placebos only except for mild nocturnal sedatives. These pressures are averaged in each of the two patient groups and the differences between averages of weeks 1 and 2, and 2 and 3 indicated for each group.

identical as between the second and third weeks. Among the patients (Nos. 1 to 15) with malignant hypertension, diastolic means do not decrease below the second week's level in the 10 observed for four weeks. Among patients Nos. 16 to 31, six were observed for four weeks, and three of these



show continuing decreases (range, 4 to 8 mm. Hg) of diastolic means, while one was unchanged and two showed small increases. Patients 3 and 7 were observed for longer periods (respectively, 11 and seven weeks), during which times the diastolic means were maintained at approximately the levels reached during the second and third weeks of hospitalization. Patient 27 was observed over six weeks, during which diastolic means decreased less than 5 mm. Hg below the level reached at the fourth week.

The distribution of data in tables 2 and 3 indicates the reliability of the weekly diastolic mean as an index of hypertensive status. From table 3 it is seen that patients with severe hypertension do not, as may those with milder disease, respond favorably to the therapeutic situation of hospitalization and placebo medication. Indeed, the slight degree of "nonspecific" responses in these patients accords with our experience that "spontaneous" remissions of severe hypertension are neither impressive nor frequent.<sup>8</sup>

6. *Means of Home Pressures:* The patients, or often members of their families, were taught auscultatory sphygmomanometry. This was usually

TABLE 4  
Differences between Successive Weekly Means of Home Pressures

Number of Patients 17		Differences between Pairs in mm. Hg			
		0-4	5-9	10-14	15-19
A. Systolic Pressures					
Number of pairs	114	84	23	5	2
Per cent of pairs	100	74	20	4	2
B. Diastolic Pressures					
Number of pairs	114	87	18	7	1
Per cent of pairs	100	77	16	6	1

done during hospitalization, so that the accuracy of their measurements could be easily verified. Checks were repeated at subsequent office visits. The pressures were taken twice daily, following a schedule similar to that in hospital, viz., at rest, shortly after waking and before medication, and again in the late afternoon or early evening. Medication consisted of either reserpine (one at bedtime, or twice daily) or hydralazine (four times a day, after meals and at bedtime). These drugs do not alter variability of pressure as measured by differences between casual and means of pressures. The data from untreated and treated groups of patients staying at home can therefore be condensed into one table for consideration of the relations between pressure means.

The listing (table 4) is composed of the distributions of week-to-week differences between means of systolic and diastolic pressures measured under like conditions. This arrangement, by pairs rather than by a study of the variability of the means from the mean of the means, is used to show week-

to-week reproducibility; this latter might well be obscured by real, albeit spontaneous shifts in pressure over periods of months. The distributions were such that nearly eight out of 10 successive weekly pairs of home systolic or diastolic means agreed within 5 mm. Hg, and more than nine out of 10 within 10 mm. Hg. The datum provided by home means is therefore highly reproducible.

This reproducibility might be criticized on the basis that patients would tend, more or less unconsciously, to round off measurements to the nearest 10 mm. and perhaps to select, from a number of readings, the one considered most favorable. As to the rounding-off of readings, we do not object to this, which agrees with the editorial recommendation<sup>9</sup> that blood pressure be measured in centimeters, a term by which accuracy is possible, rather

TABLE 5  
Means of Weekly Hospital and Home Pressures without Treatment\*

Patient	Diagnosis	Hospital		Home		Difference
		Mean	Weeks	Mean	Weeks	
1	Ess. Ht. M.	156/103	1	156/97	3	0/-6
2	Ess. Ht. R.?	154/104	1	150/102	3	-4/-2
3	Ess. Ht. S.	194/105	1	190/90	6	-4/-15
				202/96	4	+8/-9
4	Ess. Ht. Mal.	192/126	2	199/121	7	+7/-5
5	Ess. Ht. M.	143/86	1	158/87	4	+15/+1
6	Ess. Ht. As.	204/109	2	229/104	4	+25/-5
7	Ess. Ht. M.	160/107	1	183/125	6	+23/+18
8	Ess. Ht. S.	180/107	1	154/102	5	-26/-5
		179/113	3	142/89	4	-37/-24
				157/95	4	

\* Means of blood pressures by weeks, at home for periods immediately preceding or following hospital means in untreated patients. "Weeks" indicates the number of weekly means averaged in the means listed above. Under diagnosis, Ess. Ht. = essential hypertension, M. = mild, R.? = possibly renal hypertension, S. = severe, Mal. = malignant syndrome, and As. = associated aortic arteriosclerosis.

than in millimeters, which can neither be measured nor closely interpreted. That they might select low readings for the records is a more serious objection. The general correspondence, shown below, between home and hospital readings in most patients shows that this is not a common source of inaccuracy. Actually, this defect has been detected in only one or two patients, although it has been looked for in all.

7. *Hospital and Home Means: A. Without Treatment.* Means of hospital pressures, usually from the last week of a hospital stay, were compared with means from several consecutive or immediately preceding weeks of home readings in eight patients not given any antihypertensive drugs. The data are listed in table 5. Patients 1, 2 and 4 demonstrated close correspondence of means in these two situations. Home pressures were somewhat lower than hospital pressure in patient 3, possibly because the period



of hospitalization was short. Hospital diastolic pressure was higher than home also in patient 4; in this case, home pressures preceded admission and were taken during a period in which her hypertensive disease was accelerating. Patients 5 and 6 showed increases of systolic pressure at home; they are sisters, both very active, and the one (case 6) has a dilated and tortuous aorta by x-ray. Patient 7 showed increases in both systolic and diastolic pressures at home; she is a large, almost hyperkinetic career woman whose work and responsibilities impinge heavily upon her. The contrary situation was demonstrated in patient 8; she is a shy woman, who has had a stroke from which she suffers residual aphasia; she lives a sheltered and retired life at home and is noticeably conscious of her defect in the hospital ward.

Thus, data from this group show that correspondence of hospital and home pressure means can be expected in some patients, while others show differences, sometimes very marked, which are usually individually explicable. The occurrence of these differences shows the need for selection of like conditions during control and treatment periods of drug evaluation in line with the first Aphorism, "The externals must be well ordered," since judgment is difficult and experiments are sometimes fallacious.

*B. With Treatment.* Means of hospital pressures were compared with home means during treatment in three patients given reserpine, 14 given hydralazine, and one on thiocyanate. Among 18 patients (table 6) with juxtaposed home and hospital treatment data, the means of home and hospital diastolic pressure did not differ by more than 10 mm. Hg in 14, and by more than 5 mm. in eight of these. Larger differences were observed in four patients (cases 20, 26, 13 and 19), and during one period of hospitalization in a patient who had previously shown close correspondence of the diastolic means (case 17). Among these five differences, one exemplifies an artefact of home pressures. The patient (case 19), a man with polycystic kidney disease, had a marked intention tremor which made it difficult for him to measure his home pressures; the observed increase in home mean mirrors this difficulty. The difference in the second hospitalization of patient 17 reflected the psychic stress of this period, which was prefatory to a lumbodorsal sympathectomy. The decreases observed in the other three patients are unexplained except as they may be attributable to a greater relative stability of the home than the hospital situation. The differences found during treatment indicate the need for like conditions during control and therapeutic periods found above in untreated patients. However, equally significant is the demonstration that home and hospital means correspond well in the majority of patients. This confirms our impression of the reliability of the datum provided by means of pressures.

*8. Home Evaluation:* Most of the patients have entered hospital for evaluation and control study and to begin their courses of treatment which they have continued at home. This was sometimes impractical and, in some patients (e.g., case 7), the home control period was the only practical means

TABLE 6  
Means of Weekly Hospital and Home Pressures during Treatment\*

Patient No.	Diagnosis	Hospital		Home		Difference	Medication
		Mean	Weeks	Mean	Weeks		
10	Ess. Ht. S.	185/117	1	181/119	3	+4/-2	Reserpine
4	Ess. Ht. Mal.	148/92	3	147/94	4	-1/+2	Reserpine
20	Ess. Ht. M.	158/96	1	158/78	2	+3/-12	Reserpine
		155/90	1	184/90	2		Reserpine
				181/99	2		Reserpine
12	Ess. Ht. M.			138/96	6		None
				124/86	4		Reserpine
				136/92	4		Reserpine
7	Ess. Ht. M.			183/125	6		None
				172/116	8		Hydralazine
				169/110	4		Hydralazine
				149/93	4		Hydralazine + Reserpine
1	Ess. Ht. M.			161/102	5		None
				135/83	4		Hydralazine
		149/91	1	143/94	4	-6/+3	Hydralazine
11	Ess. Ht. S.	151/106	3	147/107	5	-4/+1	Hydralazine
		154/94	1	141/97	5	-13/+3	Hydralazine
		167/105	1	157/106	6	-4/+1	Hydralazine
13	Ess. Ht. M.	136/98	1	120/79	4	-6/-19	Hydralazine
14	Ess. Ht. M.	161/99	2				None
		162/97	4	170/93	4	+8/-4	Hydralazine
		169/99	1			+1/-4	Hydralazine
15	Ess. Ht. M.	164/104	1	162/112	4	-2/+8	Hydralazine
16	Ess. Ht. Mal.	198/123	1	188/118	4	-10/-7	Hydralazine
17	Ess. Ht. S.	182/104	2	180/106	8	-2/+2	Hydralazine
		208/129	2	190/106	4	-18/-23	Hydralazine
19	R. Ht. S.	176/103	6	203/119	6	+27/+16	Hydralazine
		162/96	1	189/108	4	+27/+14	Hydralazine
21	Ess. Ht. S.			184/123	3		None
				178/122	3		Hydralazine
				165/108	3		Hydralazine (3rd month)
		169/112	2	158/102	4	-11/-10	Hydralazine (4th month)
				150/106	4	-9/-6	Hydralazine (5th month)
22	Ess. Ht. S.	170/109	1	170/104	7	0/-5	Hydralazine
23	Ess. Ht. M.	149/105	1	146/95	5	-3/-10	Hydralazine
24	Ess. Ht. M.	156/104	1	141/96	6	-15/-9	Hydralazine
25	Ess. Ht. S.	157/104 <sub>1</sub>	3	153/95	5	-4/-10	Hydralazine
26	Ess. Ht. Mal.	190/110	3	172/96	4	-18/-14	Hydralazine
		190/104	1	180/96	4	-10/-8	Hydralazine
18	Ess. Ht. S.	190/88	1	196/90	2	+6/+2	Thiocyanate

\* Arrangement of data as in Table 1. Differences between hospital and home means are given chronologically closely related data; thus, for case 21, two differences are given for periods immediately preceding and immediately following the indicated hospitalization.

of determination of the long-term, truly restorative effects of treatment. Further, the stability of means of home pressures is such that hospitalization is not always a necessary prerequisite to evaluation from means of pressures. The practicality of therapeutic study from home pressures is shown by data from four patients (cases 1, 7, 12 and 21) whose control and treatment periods were carried on at home, during measurement of home pressures, before or without hospitalization. Patients 1 and 7 demonstrate unequivocal responses of blood pressure means, patient 21 a moderate response which was well maintained, and patient 12 an equivocal response which was not sustained.

9. *Advisability of Home Pressures:* Home pressure readings are used in programs of treatment<sup>4,9,10</sup> which are based on adjusting doses of ganglion-blocking drugs by the level of standing blood pressure. Smirk<sup>11</sup> does not find them necessary. He relies instead on the criterion of dizziness during one minute's quiet standing. This test seems inadequate to us, since it specifies only when *not* to take a dose; the end-point is nonspecific and, in patients who are unduly susceptible to injury from orthostatic hypotension, the procedure may be dangerous. Further, as Freis<sup>10</sup> has pointed out, home recordings encourage the patient's coöperation in the régime, teach him to recognize side-effects of hypotension, and aid him in managing situations which disturb him and raise his blood pressure. The records also give the physician precise information on which to judge response and to vary dosage. Data from the patients using ganglion-blockers, some of which have been reported elsewhere,<sup>4</sup> were not used in the present report because the aim here has been to examine situations which do not involve the wide fluctuations of pressure these drugs commonly elicit.

Some physicians who admit the usefulness of home readings during treatment with ganglion-blockers still consider them an evil, and many would take a position against their use by patients not taking these drugs. The major objection is that home readings tend to fix a neurotic obsession with blood pressure. This is "a reasonable assumption rather than a verified scientific fact";<sup>10</sup> it does not accord with the general experience of those who have extensive personal observation of patients taking home pressures. Further, this "common-sense generalization" is counter to experience in the comparable situation of home testing of urine by diabetics, about which similar predictions were made 30 years ago.

Our experience extends over more than 200 patients who have taken home readings of pressure. Many of these have found this helpful to themselves. Some find reassuring the tendency of home readings to be lower than office readings, especially those with mild hypertension who find their home readings within normal limits. Patients with more severe hypertension are particularly gratified to verify personally the fact that they are responding well to a program of treatment. A secondary but very important consideration is that the data provided by home readings may be

invaluable in assessing the value of a course of treatment and the relationship between changes in blood pressure and the signs and symptoms of the disease. Misconceptions of this relationship can be avoided. For example, one such, which persists, concerns those patients whose signs and symptoms have abated after lumbodorsal sympathectomy, but whose blood pressures are described as unchanged. The blood pressures cited are usually casual office readings; it can be assumed that decreases in blood pressure would have been clearly demonstrated had home means of pressures been available when these studies were done.

Actually, the extent of our patients' preoccupations with their blood pressures varies widely from person to person. Those whose personalities lean naturally on the daily inspection of their physical secretions of all sorts add blood pressure to this area of interest. One patient with severe hypertensive disease, controlled now by ganglion-blockers, had had as his avocation the function of his large bowel; over the past several months, the sphygmomanometer has not yet displaced this organ as a focus of interest. Our impression is that such fixation as arises is only a substitute. It may be socially vexatious but it is not physically or psychically harmful.

To confirm this impression, the incidences of psychosis and disabling depressions have been reviewed in two groups of patients who have been followed for at least three years. The one group consisted of 28 patients who had been given antihypertensive drugs but who had not taken home pressures. Three of these developed psychoses, two depressive and one paranoid. The other group consisted of 102 patients who had taken their own pressures during treatment. Of these, 12 developed depressions without actual psychosis. In five, taking reserpine, the depressions cleared after the drug was decreased or discontinued. Thus, the incidences of psychiatric disabilities in the two groups are roughly the same, at one in 10 over a three year period.

Inquiries among the 12 who became depressed and who took home pressures showed that they had been depressed before they began this practice. The depressions arose primarily after they became aware of severe hypertensive disease and began to consider the fates of their hypertensive kin and to dwell upon the effects of disability and death on their dependents. Superficially, none seemed concerned by taking his own pressure. The one possible exception to this was a young man who, over the period of observation, lapsed into a state of anxiety for which he is now receiving psychiatric care. In his case, not only the taking of blood pressures but also every manipulation relevant to hypertension, such as taking blood, provoked intense anxiety; the taking of home pressures merely prolonged these assaults.

Hence, we have no substantial evidence that home readings of blood pressure are commonly harmful. They are tedious and quite unnecessary in the majority of patients. But they are necessary adjuncts to the use of

ganglion-blockers, helpful in the evaluation of drugs and, in some situations, actively beneficial to the patient.

### SUMMARY AND CONCLUSIONS

1. Evaluation of antihypertensive drugs and procedures involves observations which are more easily correlated in a single graphic chart than in the conventional hospital records. The data can also be conveniently summarized in a numerical "Severity Index."

2. The datum selected for the Index as representative of arterial pressure cannot be based on casual readings of blood pressure. These average about 20/10 mm. Hg higher than the corresponding week's means of readings made twice daily, either by nurses in the hospital or by the patient or his family at home. This difference between casual readings and weekly means of readings is not diminished by treatment with hydralazine or reserpine, and is widely variable.

3. Means of pressures measured in hospital, on the other hand, are representative, in that they center in the range of the week's series of readings and, when grouped together, correspond on the average to clinical estimates of the patients' status. In successive weeks, these means tend to stabilize after one week in most patients, so that the mean of the second or third week is usually a satisfactory base-point for evaluation of an antihypertensive drug.

4. Means of home readings are considered equally representative with means of hospital readings, to which they commonly closely correspond. Differences between home and hospital means, when they occur, demonstrate the necessity of maintaining like conditions during a therapeutic study and usually have a satisfactory explanation. Home means show a very narrow range of variation from week to week and, in general, provide highly reproducible data.

5. The inadvisability of home readings of blood pressure has been urged on the assumption that the making of these will create a neurotic obsession. Our impression is that they do not create, although they may substitute for some other obsession. A review of data from patients taking home readings does not show an increased incidence of psychiatric disability as compared with patients who are not making home readings, although several of the patients developed depressive reactions during the course of observation. The depressions in these had apparently preceded the taking of home pressures, and became manifest either with the passage of time and release of some restraint or during medication with reserpine. Hence, although the taking of home pressures is not considered either necessary or desirable in the majority of patients, it was not found to be really psychologically disadvantageous and, in some patients, proved useful and reassuring to the patient while at the same time it provided the therapist with reliable data.

6. The recording of weekly means of pressures, measured either in hos-

pital or at home, is recommended as part of a program of evaluation of antihypertensive procedures.

#### SUMMARY IN INTERLINGUA

Un efficace methodo antihypertensive debe relentar, arrestar, o reverter le manifestationes de hypertensive morbo cardiovascular per reducer le nivello median del pression arterial durante extense periodos de tempore.

Le accumulation del datos requirite pro un tal demonstration es plus facile a manipular in le forma de un sol comprehensive graphico que in le forma del voluminose protocollos hospitalari. Le datos del graphico pote esser summarisate numericamente in un "Indice de Severitate" que representa allora le sol factor a considerar in le evaluation.

Le selection de datos que constitue un appropriate expression del pression sanguinee es difficile, proque le determinationes obtenite per le medico in le curso de su routine es usualmente plus alte que illos obtenite quando le patiente es in stato de reposo complete o que le determinationes facite per le infirmiera o que le valores median del pression mesurate per le infirmiera in le curso de longe periodos de tempore. Iste tendentia del determinationes rutinari del medico non es reduce per le tractamento con hydralazina o reserpina.

Valores median septimanal del pression mesurate duo vices per die al hospital es expressive del pression arterial del individuo. Tal valores deveni stabile post un septimana de hospitalisation. Illos provide un base digne de confidentia pro le evaluation de subseque responsas therapeutic.

Valores median del determinationes facite al domicilio del patientes etiam exhibi un restringite scala de variationes e frequentemente se trova in satis bon correspondentia con le valores median obtenite al hospital. Assi il es possibile in multe patientes combinar le determinationes hospitalari e domiciliari pro le studio therapeutic, o le valores median domiciliari pote esser usate per se.

Le indesirabilitate de determinationes domiciliari ha essite sublineate super le base del assertion que executar los tende a crear un obsession neurotic. Il es nostre impression que isto non es le caso, ben que il es ver que un tal obsession pote apparer como reimpiacemento de un altere pre-existente obsession. Un revista de datos ab patientes qui executa determinationes domiciliari de lor pression sanguinee non revela un augmentate frequentia de invaliditate psychiatric inter illes. In plure casos le patientes se abandonava a statos depressive, sed istos pareva haber habite lor origine ante le determinationes domiciliari de pression sanguinee e se manifestava in certe casos in le curso del tempore e in altere casos durante un curso de reserpina. Iste statos depressive esseva associate con le timor inspirate al individuos in question per le morbo hypertensive. In certe casos iste timor es reduce per le practica de determinationes domiciliari, de maniera que iste methodo es frequentemente tanto profitable pro le patiente como pro le therapeuta. Del altere latere, determinationes domiciliari es ni necessari ni desirabile in le majoritate del patientes.

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## PHEOCHROMOCYTOMA: THE VALUE OF CERTAIN TESTS USED ROUTINELY IN DIAGNOSIS \*

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PHEOCHROMOCYTOMA is an uncommon cause of clinical hypertension. Although its exact incidence is unknown, an estimate based upon surgically explored hypertensive patients is 0.47%.<sup>1</sup> The true incidence, because of many unrecognized cases, is undoubtedly higher. Since surgery will effect cure, clinical recognition is the direct responsibility of every physician. Several reviews,<sup>1-9</sup> recently published, emphasize various aspects of the problem. Pheochromocytoma masquerades in many clinical forms, notably hypertensive vascular disease, fluctuating<sup>10</sup> or even malignant in type,<sup>11</sup> renal disease,<sup>12</sup> diabetes mellitus,<sup>13</sup> hyperthyroidism, toxemia of pregnancy,<sup>14</sup> psychoneuroses and others. A most rewarding experience, first described by Pincoffs<sup>15</sup> in 1929, awaits the correct clinical diagnosis of pheochromocytoma with subsequent cure of the patient by surgery.

The hypertensive pattern of pheochromocytoma falls commonly into two large groups, the paroxysmal and the persistent form, the latter predominating statistically.<sup>16</sup> Blood pressure fluctuates widely in both types from varied, often slight stimuli. While the persistent type tends to mimic chronic hypertensive disease, the paroxysmal form is characterized by "seizures" or "attacks," during which blood pressure rises sharply, an important diagnostic point. The release of epinephrine and norepinephrine to the circulation from chromaffin tumor cells underlies the varied clinical manifestations of pheochromocytoma.<sup>17, 18</sup> On pharmacologic grounds one would suspect a tumor releasing predominantly epinephrine, to produce a syndrome characterized by hypertension, tachycardia, hyperglycemia and hypermetabolism, whereas norepinephrine in abundance would resemble sustained hypertension. Correlation of the chemical quantities of these two hormones contained in removed adrenal tumors with the clinical picture observed is far from exact, since either catecholamine may produce sustained hypertension in the presence or absence of other metabolic disturbances, such as hypermetabolism or hyperglycemia.<sup>17</sup>

Numerous important clues warrant suspicion of the presence of pheochromocytoma: (1) "seizures" or "attacks," characterized by headache, palpitation, dyspnea, weakness, chest or abdominal pain, nausea, vomiting, flushing, pallor, dizziness, nervousness, blindness, tingling, and convulsive twitching in various combinations, particularly when accompanied by paroxysmal rise in blood pressure; (2) "seizures" precipitated by emotional

\* From the Symposium on Hypertension, presented at the Thirty-sixth Annual Session of the American College of Physicians, Philadelphia, Pennsylvania, April 27, 1955.

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disturbance, change of body position, abdominal palpation, histamine administered for gastric analysis, trauma of various types, anesthesia or surgical manipulation; (3) hypertension, fluctuating or persistent, in any young individual, or rising blood pressure early in pregnancy suggesting toxemia; (4) hypertension associated with fever, unexplained sweating, glycosuria, hyperglycemia, hypermetabolism or neurofibromatosis.<sup>19, 20</sup>

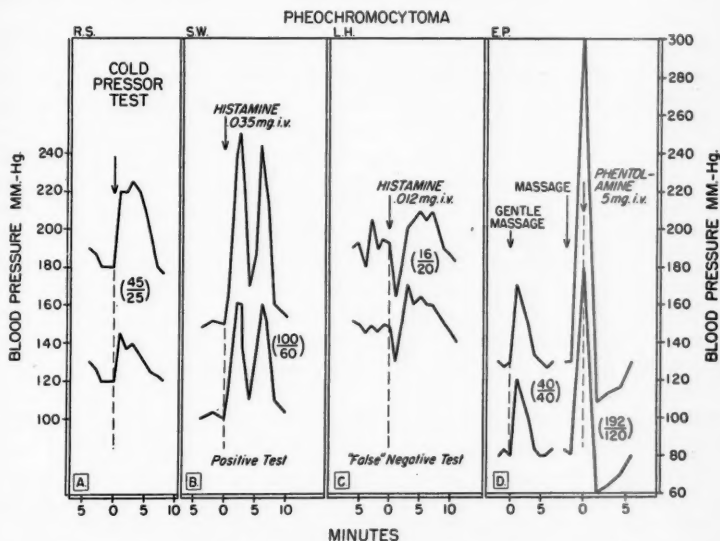


FIG. 1. Illustrates tests in 4 separate patients, each with proved pheochromocytoma. A. Positive cold pressor test demonstrating rise of systolic and diastolic pressure of 45/25 mm. Hg. B. Positive histamine test; blood pressure rise of 100/60 mm. Hg, exhibiting a secondary peak, thus emphasizing the necessity for following pressure responses beyond 5 minutes. C. "False"-negative histamine test; blood pressure rise of 16/20 mm. Hg attributed to small amount of histamine administered and high initial level of control blood pressure (192/148 mm. Hg). D. Rise in pressure from gentle massage, 40/40 mm. Hg; after vigorous massage, blood pressure responded immediately from level of 130/80 mm. Hg to above 300 mm. Hg. Phentolamine, 5 mg., administered intravenously at level of 300/180 mm. Hg, produced fall to 108/60 mm. Hg within one minute, and gradual return to 130/80 mm. Hg in 6 minutes. The immediate blockade of an excessive blood pressure response is of diagnostic value.

Physical examination most frequently fails to disclose information of diagnostic value, since the findings may be entirely normal between paroxysms or those usually apparent in chronic hypertensive disease. An abdominal tumor is palpable in 14% of cases. Pressure on both flanks or massage of tumor, if present, should be done routinely in order to precipitate an attack. Phentolamine for emergency use must be available; the immediate blockade of an excessive hypertensive response offers confirmatory diagnostic evidence that the paroxysm is caused by epinephrine or norepi-

nephrine (figure 1d). Postural fall in blood pressure with concomitant tachycardia as a sign of pheochromocytoma<sup>8</sup> has limited value because many hypertensive patients exhibit fall in blood pressure upon standing.

During a paroxysmal attack, peripheral vasomotor phenomena, accompanying sudden elevation in blood pressure, are observed in the form of skin pallor, mottling, excessive sweating, constriction of the fundal and peripheral arteries, and even disappearance of the radial pulse. Rise in body temperature and blood sugar levels is found in individual instances. Since clues leading to suspicion of pheochromocytoma are not always evident from routine history, physical and laboratory examinations, patients with persistent or fluctuating hypertension deserve additional investigation to secure the diagnosis. These may include urologic procedures, special pharmacologic tests and determination of catecholamine in blood and urine.

Conventional urologic investigation consisting of abdominal flat plate and pyelography, intravenous and retrograde, rarely demonstrates more than downward displacement of the kidney by pheochromocytoma. Laminagraphy offers additional help in suspicious cases. Presacral air insufflation<sup>21</sup> and perirenal air injection<sup>22</sup> may be required to outline the tumor, but are not entirely free of danger.<sup>23, 24</sup> Tumors occur bilaterally in 10% of cases. Since both adrenal glands and accessory chromaffin tissue areas must be explored at operation in each instance, preliminary localization of the tumor by x-ray is not a necessity.

The application of special pharmacologic tests in the diagnosis of pheochromocytoma has been summarized recently.<sup>25-30</sup> Additional review, with particular reference to the specific value of routine screening tests, emphasizes several difficulties: (1) lack of uniform criteria for each test so that "false" tests can be avoided; (2) few reports available concerning single or multiple tests for large series of patients,<sup>31-39</sup> although several cases have been extensively studied and reported in detail,<sup>34, 40, 42</sup> and many reports describe "false"-negative or -positive tests found in one or two patients.<sup>43-51</sup> Frequent exception to the results described seems justified because of lack of proved diagnosis, variation in technic of test, clinical status of patient with reference to sedation, renal insufficiency, anesthesia and particularly the exact level of control blood pressure at which provocative or blocking procedures are instituted. Most "false" responses probably can be avoided by intelligent patient selection, the omission of interfering drugs and the use of proper testing technics.

#### PHARMACOLOGIC TESTS

Pharmacologic tests for pheochromocytoma are divided into two groups: provocative, employing histamine, methacholine and tetraethylammonium; and adrenergic blocking procedures, utilizing piperoxan (Benodaine), phentolamine (Regitine) and Dibenamine. Tests should be performed only after the patient has rested in bed comfortably in a quiet room for from

15 to 30 minutes to insure stable control blood pressures. Complete freedom from drugs, particularly sedative and antihypertensive compounds, for at least 48 hours or more prior to testing is necessary to avoid "false"-positive or "false"-negative results. After administration of a test dose of drug, observations should be continued for 15 minutes or longer so that wavering blood pressure responses may not lead to false conclusions (figure 1b and 2c).

Provocative tests depend upon stimulation of chromaffin tissue directly or reflexly to deliver epinephrine and norepinephrine to the circulation in excessive quantities.<sup>52</sup> Histamine and tetraethylammonium are administered rapidly intravenously and methacholine is administered subcutaneously. A positive test exhibits a preliminary fall, followed by rapid rise in blood pressure to levels well above those produced by the cold pressor test. Provocative agents are used in those patients exhibiting paroxysmal hypertension whose control pressures are below 170/110 mm. Hg.<sup>37</sup>

As a guide to the interpretation of provocative tests, a preliminary cold pressor test<sup>53</sup> should be performed as a measure of blood pressure reactivity to a standard stimulus (figure 1a). Smithwick<sup>3</sup> felt that a normal cold pressor response in a hypertensive should arouse suspicion of pheochromocytoma. The frequency of hyper-reactors (blood pressure rising above 20/15 mm. Hg) among proved pheochromocytomas invalidates the diagnostic significance of this test.<sup>27, 36</sup>

**Histamine:** In 1945 Roth and Kvale<sup>54</sup> first described the use of histamine as a provocative test for pheochromocytoma. The histamine blood pressure response was less than the cold pressor response in the 31 normotensives and 16 hypertensives examined, but exceeded the cold pressor response by as much as 100 mm. Hg in three patients who had pheochromocytoma. Technic of the test consists of the rapid intravenous injection of 0.025 mg. to 0.05 mg. of *histamine base* in 0.25 c.c. to 0.5 c.c. of saline. Blood pressure is taken in the opposite arm every 30 seconds for five minutes, then every minute for 15 minutes, or until the blood pressure resumes control levels. Phentolamine should be available for emergency use intravenously if blood pressure and symptomatic response become alarming. A test is considered positive when the blood pressure rises appreciably above the cold pressor response. Chapman and Singh<sup>27</sup> suggest that blood pressure responses of 60/30 mm. Hg or more occurring one to four minutes after injection and lasting five to 15 minutes or longer be considered as positive criteria.

"False"-negative tests may result from sedation, anesthesia,<sup>55</sup> high initial levels of blood pressure (figure 1c) or slow injection rate of histamine. Few proved "false"-positive tests are reported;<sup>4, 27, 30</sup> larger amounts of histamine base (0.15 mg.) may cause a "false"-positive test.<sup>55</sup>

Histamine is the most reliable of the provocative procedures and should be used in all patients suspected of pheochromocytoma who have a normal

or fluctuating blood pressure. The test is not indicated but may be positive or negative during persistent severe hypertension with pheochromocytoma, but here it is potentially dangerous.

*Methacholine:* In 1948 Guarneri and Evans<sup>56</sup> first suggested the use of methacholine chloride, administered subcutaneously, as a test for pheochromocytoma. Further studies by Evans and associates<sup>56</sup> yielded no definite "false"-negative responses among four proved cases of pheochromocytoma, and no "false"-positive reactions among 110 tests in hypertensives and 19 tests in pheochromocytoma suspects. The testing dose was reduced to 10 mg. to avoid excessive sweating, salivation, dyspnea, flushing and urge to defecate and urinate; a 30 minute period of observation was suggested. A comparison of methacholine with the cold pressor response was made in each instance. Criteria for a positive test consisted of a pressor response from methacholine greater than that from the cold pressor test. "False"-negative tests in proved pheochromocytoma are recorded,<sup>38, 41, 42</sup> but "false"-positive tests are not. Reports of experience in use of this drug are insufficient to assess its true value. The test is probably useful as a check upon histamine responses using identical criteria. Atropine may be given before the test to prevent distressing side effects.

*Tetraethylammonium:* Tetraethylammonium bromide, a ganglionic blocking agent, was introduced in 1948 as a provocative diagnostic test by LaDue, Murison and Pack,<sup>57</sup> who compared its effects with histamine preoperatively and postoperatively in a surgically proved case of pheochromocytoma. Following rapid intravenous injection of 400 mg. of tetraethylammonium bromide, blood pressure rose in 30 seconds by 95 mm. Hg systolic and 55 mm. Hg diastolic and remained elevated for 15 minutes, during which striking postural falls in blood pressure were produced by shifting the patient to sitting and standing positions. A tentative advantage of tetraethylammonium over histamine lies in the examiner's ability to control excessive peaks of blood pressure by simple postural means. As a stimulatory drug it is inferior to and less reliable than histamine. "False"-positive<sup>25, 36</sup> and "false"-negative tests have been noted.<sup>26, 27, 35, 36, 38, 41</sup> In suspected cases, tetraethylammonium in doses of 100 mg. to 400 mg. may be useful as an accessory test when histamine tests are doubtful or negative. This drug is not entirely free of danger: multifocal ventricular tachycardia<sup>58</sup> has followed its administration, and one death has been reported.<sup>58</sup>

*D.M.P.P.:* In 1953 Page and McCubbin<sup>60</sup> reported the effect of 1-dimethyl-4-phenylpiperazinium iodide (D.M.P.P.), a ganglion stimulating agent, in one case of pheochromocytoma. One milligram of drug given intravenously caused arterial pressure to rise from 210/135 mm. Hg to 280/200 mm. Hg; 10 mg. of piperoxan effected fall in pressure to 120/70 mm. Hg. Following operative removal, D.M.P.P. produced an insignificant pressor response of 15/2 mm. Hg. This compound deserves further investigation as a provocative test in suspected cases of pheochromocytoma.

The adrenergic blocking procedures utilize drugs which are predominantly adrenolytic in action at dosage levels clinically administered. Since hypertension, in an actively secreting pheochromocytoma, results from excess circulating epinephrine and norepinephrine in variable quantities, the adrenolytic drugs produce prompt fall in blood pressure as a positive response. These tests are therefore primarily useful in patients exhibiting persistent hypertension at levels above 170/110 mm. Hg. During periods of normotension, when hormonal secretion is relatively low, blocking agents have no diagnostic value. Phentolamine may be administered intramuscularly or intravenously; piperoxan is given intravenously over a two minute period, and Dibenamine intravenously over a period of an hour. "False"-negative tests may occur when control blood pressures are too low, when hypertension not due to pheochromocytoma (non-humoral form) exists, or during administration of antihypertensive drugs. "False"-positive tests have resulted from sedation and uremic states, and for reasons undetermined (figures 2a, b).

*Piperoxan:* first introduced by Goldenberg, Snyder and Aranow<sup>31</sup> in 1947 as a diagnostic agent for pheochromocytoma, is an adrenolytic compound which tends to block the action of both epinephrine and norepinephrine. The technic of the test involves the introduction of a saline intravenous infusion drip using a three-way stop-cock, and the intravenous injection of 0.25 mg. of piperoxan per kilo of body weight (maximum, 20 mg.) slowly over a period of two minutes. Children may be given 10 mg. per square meter of body surface. Blood pressures are taken in the opposite arm every 30 seconds for five minutes, and each minute thereafter for 15 to 30 minutes, or until blood pressure stabilizes at control levels. Exact criteria for a positive test are not available. Goldenberg<sup>31</sup> suggested the use of a time plot graph, measuring the areas under blood pressure response, both depression and elevation, in millimeter minutes, and plotting the algebraic sum on a biaxial reference system, using the net systolic pressure changes as ordinates and net diastolic pressure as abscissas. In this way, magnitude and time are both considered. Each of four patients with pheochromocytoma thus plotted fell in the third quadrant, although in one case the fall was only 22/18 mm. Hg. Chapman and Singh,<sup>27</sup> in their review of positive tests, noted a prompt fall in blood pressure within one to four minutes, lasting five to 15 minutes, and averaging 63/51 mm. Hg. They suggested that a fall in blood pressure of 35 mm. Hg in either systolic or diastolic pressure may be regarded as a positive test. A fall in diastolic pressure of 25 mm. Hg has also been suggested as a positive test.<sup>28</sup> "False"-positive tests have been noted during sedation, and uremia,<sup>35</sup> and without explainable cause. "False"-negative tests have been ascribed to nonhumoral hypertension persisting after removal of pheochromocytoma,<sup>17, 32</sup> to low levels of control pressures,<sup>27</sup> and for reasons unexplained.

Piperoxan injected intravenously in recommended doses for hyperten-

sives produces marked symptoms in many patients, including tachycardia, headache, flushing, anxiety, chest or abdominal pain, nausea, vomiting and dizziness. The blood pressure may fall initially but in most instances rises appreciably and in a few instances to an alarming degree.<sup>55, 61</sup> The production of encephalopathy, convulsions and pulmonary edema has been recorded.<sup>34, 62, 63</sup> Three possible mechanisms have been suggested for pressor responses to piperoxan: stimulation of epinephrine liberation, central nervous system stimulation, and direct vasoconstriction.<sup>52</sup> Piperoxan, therefore, is not an entirely safe or satisfactory drug to use as a routine screening test

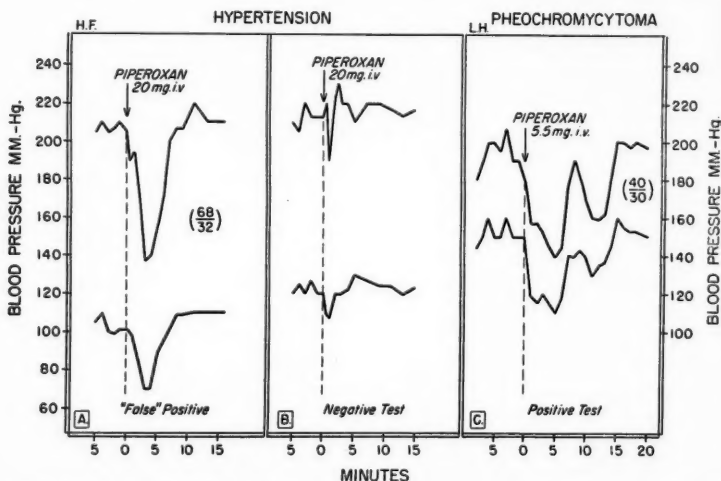


FIG. 2. A. Illustrates a "false"-positive test to piperoxan in a patient exhibiting hypertension; fall of 68/32 mm. Hg. Two subsequent piperoxan tests, one shown in B, were negative. Note the initial depressor response followed by pressor response. Phentolamine test, not illustrated, was negative. "False"-positive test was ascribed to sedation. C. Illustrates a positive piperoxan test in a patient with proved pheochromocytoma, fall of 40/30 mm. Hg. Note the immediate fall reaching maximal levels in 5 minutes, return to normal levels in 8 minutes, a secondary fall at 10 minutes and return to control levels in 15 minutes. This fall-rebound-fall type of curve emphasizes the necessity of observing tests for at least 15 minutes or longer to avoid "false" test conclusions.

for pheochromocytoma in hypertensive patients. Its principal usefulness lies in its value as an accessory drug to check the reliability of phentolamine tests.

**Phentolamine:** Phentolamine was first used for pheochromocytoma by Grimson and associates<sup>64-66</sup> in 1949. Confirmation of its value as a routine diagnostic test in hypertensive patients was soon reported by Emlet and associates<sup>55</sup> and by Gifford, Roth and Kvale.<sup>37</sup> The minimal side effects—tachycardia from intramuscular injection, tachycardia, weakness, dizziness, flushing from intravenous injection, lack of toxicity in recommended doses



and simplicity of administration—make phentolamine the drug of choice as an adrenergic blocking agent for routine testing of hypertensive patients. The technic consists of injecting 5 mg. of phentolamine intramuscularly or intravenously after a brief period is allowed for any pressor response from the needle puncture to wear off. After intramuscular injection the blood pressure is followed at five minute intervals for a minimum of 30 minutes, since a positive response exhibits a gradual fall in blood pressure, reaching its peak in 10 to 20 minutes, usually lasting 30 minutes to an hour or more. After intravenous injection blood pressure is recorded every 30 seconds for five minutes, then at one minute intervals for 15 to 30 minutes, or until blood pressure resumes and remains at control values. A positive test consists of an immediate fall in blood pressure, reaching maximum in two to five minutes and generally lasting 10 minutes or longer. The fall in blood pressure should exceed 35 mm. Hg systolic and 25 mm. Hg diastolic for a positive test.<sup>87</sup> "False"-positive tests have been observed in several large series of cases,<sup>35, 37, 39</sup> and have been attributed largely to sedation, uremia and unexplained depressor effects (possibly sympatholytic) of the drug in susceptible hypertensive subjects. Larger doses of phentolamine (10 mg. or more) increase the tendency to "false"-positive reactions and should not be used routinely. "False"-negative tests are rarely noted in pheochromocytoma patients. Sprague, Kvale and Priestley<sup>38</sup> found none in five cases tested, and Goldenberg and associates<sup>39</sup> report one "false"-negative result among six cases tested. Gifford, Roth and Kvale<sup>87</sup> reported two "false"-negative intramuscular tests which proved positive on intravenous testing. Kvale, Priestley and Roth<sup>87</sup> recorded the observation of three positive and three negative phentolamine tests, each on separate days in a single patient who had a pheochromocytoma. "False"-negative tests may be due to relatively low levels of control blood pressure, hypertension not caused by the tumor itself, and to antihypertensive drugs such as Apresoline.<sup>40</sup>

Phentolamine is superior to piperoxan as a screening agent for large numbers of hypertensive patients, since a small amount of drug is equally effective in lowering pressure, usually for longer periods, in patients with pheochromocytoma.<sup>40</sup> Phentolamine produces only mild side effects, principally tachycardia, whereas piperoxan causes moderately severe reactions in a few patients.<sup>39</sup> More "false"-positive tests have been reported from the use of phentolamine, whereas more "false"-negative tests have been reported for piperoxan. Because phentolamine is simple to administer and free of toxicity, and can be done as an office procedure by one person, it appears to be the drug of choice for routine screening of hypertensive patients.

*Dibenamine:* The third antiadrenergic drug used in the diagnosis of pheochromocytoma is Dibenamine, first tested by Spear and Griswold.<sup>70</sup> The administration of 7 mg. of Dibenamine per kilo of body weight in 300 c.c. of 5% glucose and physiologic saline during a period of one hour pro-

duced significant prolonged depression of blood pressure, blocked the positive action of histamine and eliminated paroxysmal elevation of blood pressure for 24 hours in a patient with pheochromocytoma.

Dibenamine is not a satisfactory or reliably diagnostic drug because of toxicity and depression of blood pressure in hypertensive vascular disease.<sup>71,72</sup> Wunsch and associates<sup>72</sup> demonstrated fall in supine blood pressure in each of 14 patients with fixed hypertension, the magnitude of greatest fall averaging 59 mm. Hg systolic and 38 mm. Hg diastolic. For similar reasons, Dibenzylamine,<sup>73</sup> a related compound, is not recommended as a diagnostic agent by its manufacturers.

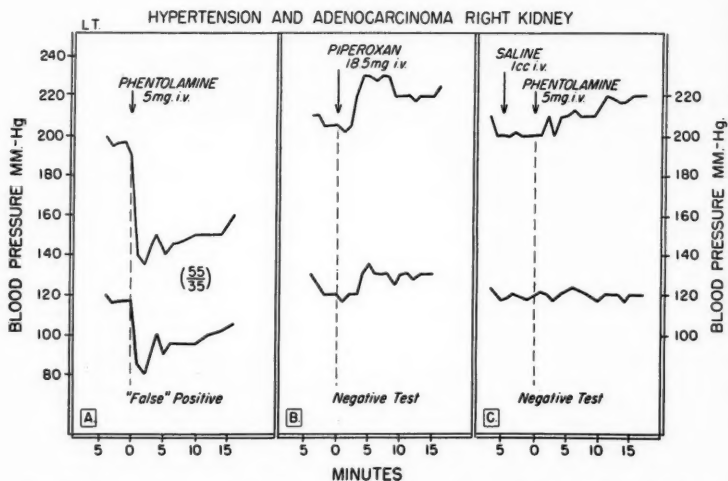


FIG. 3. Illustrates responses of one patient (L. T.) suffering from hypertension and proved adenocarcinoma of right kidney. Two "false"-positive intravenous phentolamine tests, A, were followed by a negative piperoxan test, B, and two subsequent negative intravenous phentolamine tests, C. The "false"-positive tests were performed using sedation. The necessity for repetitive testing is clearly emphasized.

#### CHEMICAL METHODS

The determination of increased urinary excretion of epinephrine and norepinephrine as a diagnostic test for pheochromocytoma was first suggested by Engel and von Euler,<sup>74,75</sup> and subsequently confirmed by Goldenberg and Rapport.<sup>76</sup> A recent report by Goldenberg and associates<sup>77</sup> describes methods utilized, which involve adsorption of urinary catecholamines on precipitated aluminum hydroxide and study of concentrated extracts by bio-assay, paper chromatography, photofluorometric evaluation, and absolute quantitation of epinephrine and norepinephrine by chemical methods. A short rapid screening procedure is first used in those patients suspected



of pheochromocytoma and, if it is positive, a longer, more specific method is applied for confirmation. Excretion of catecholamine was six to 27 times greater in patients with pheochromocytoma than in patients with persistent hypertension. No "false"-positive or "false"-negative results have been observed in more than 500 patients with paroxysmal or persistent hypertension.<sup>78</sup> Since a significant number of "false"-positive and "false"-negative tests to histamine, phentolamine and piperoxan have occurred in this same group of patients, the reliability of urinary catecholamine determination indicates the practical application of this test as a check upon all "false" pharmacologic drug tests before submitting a patient for surgical exploration. A point of special interest is the observation of increased catecholamine excretion during normotensive periods in patients who exhibit the paroxysmal hypertensive form of pheochromocytoma. The chemical quantitation of epinephrine and norepinephrine in the blood of 18 patients with pheochromocytoma is reported by Manger and associates.<sup>79</sup> In nine patients with sustained elevation of blood pressure, epinephrine and norepinephrine were elevated in the blood of all, and in two of four patients with paroxysmal hypertension and pheochromocytoma. Blood levels of epinephrine and norepinephrine were shown to rise upon stimulation by palpation and histamine and after anesthesia. Lund<sup>80</sup> also has reported increased values for epinephrine and norepinephrine in the blood and urine of cases of pheochromocytoma.

Tests for pressor amines in blood and urine are technically difficult to perform but now appear to be the most reliable of current methods in the diagnosis of pheochromocytoma.

#### PERSONAL EXPERIENCES

During the 25 year period embracing 1930 to 1955, 11 cases of pheochromocytoma have presented at Duke Hospital. Two patients, both hypertensive, were unrecognized before the advent of adrenergic blocking agents in diagnosis. One of these two cases represents the only instance of pheochromocytoma encountered among 7,560 routine autopsies performed during this interval. Since 1948 nine patients, eight with adrenal medullary tumors and one paraganglioma, have been observed and submitted to operation. Three cases were classified as paroxysmal hypertension and six as persistent hypertension. Fluctuations in blood pressure, spontaneous or secondary to various types of stimulation including surgical manipulation, were observed in all patients. Seven cases were easily recognized on clinical grounds alone; two cases, both with easily palpable left upper quadrant tumors, were diagnosed only by virtue of hypertensive crisis precipitated by surgical manipulation and reversed by injection of phentolamine.

In the entire group of nine patients, fever above 38° C. was presented by three patients, tachycardia above 100 beats per minute by two patients, palpable tumors by four patients, three in the left adrenal area, and one

paraganglioma in the left periumbilical area. Paroxysmal attacks were induced by clinical palpation in two of the four palpable tumors, and in one of five patients without demonstrable mass. Various x-ray and urologic procedures, including flat plate of abdomen in nine, intravenous or retrograde pyelography in seven, laminagraphy in six and presacral air insufflation in one, were helpful only in a confirmatory way in the three palpable adrenal medullary tumors, but failed to localize tumors in the other six patients, including the paraganglioma. Glycosuria was found in three patients, hyperglycemia above 120 mg.% in one of seven patients, abnormal glucose tolerance in one of three patients, and elevated metabolism in both cases tested. Shingleton tests<sup>81</sup> for circulating epinephrine in the blood were positive in each of two patients. Urinary catecholamine excretion revealed high values in the only patient tested. The cold pressor test was positive in one case of persistent hypertension and negative in two cases of paroxysmal hypertension.

Provocative tests were performed in three patients. The histamine test was positive in one patient and negative in two patients; the tetraethylammonium test was positive in one and negative in one patient; the methacholine test was negative in one patient. Of four "false"-negative results, three were probably due to high levels of control blood pressure; the fourth, a "false"-negative histamine test performed four times, remains unexplained, particularly since the tetraethylammonium test was positive under identical conditions and interference from drugs could not be implicated.

*Adrenergic Blocking Tests:* Piperoxan tests, performed according to standard technics, were positive for four patients; the average fall in systolic and diastolic pressures was 51/35 mm. Hg. The blood pressure tended to fall immediately, and the fall lasted for periods of five to 30 minutes. Occasionally an undulating fall-rebound-fall type of curve is noted for a positive test before blood pressure resumes control values. A case with equivocal response to piperoxan was positive to phentolamine intravenously. A fall in both systolic and diastolic pressure of 30 mm. Hg or more, lasting for five minutes or longer, may well be an accepted criterion of a positive test.

Phentolamine was administered to five patients intramuscularly in 5 mg. doses; four positive responses (average fall in pressure, 75/55 mm. Hg) and one "false"-negative test were observed, the latter tested at borderline control pressures (170/110).<sup>\*</sup> Blood pressure after intramuscular injection tends to fall gradually, becoming quite definite in five to 10 minutes, reaching a maximum in 20 to 30 minutes, and lasting 30 minutes to an hour or longer.

Phentolamine administered intravenously to seven patients produced positive responses in three patients preoperatively (average fall, 84/57 mm. Hg), in two patients during spontaneous attacks, and in two patients during the operation itself. One "false"-negative test was observed at control

<sup>\*</sup> Intravenous phentolamine test in this patient was also negative preoperatively, but positive during hypertensive crisis at operation.

blood pressure levels of 170/120.\* Fall in blood pressure appears promptly and generally lasts 15 minutes or longer. Blood pressure fall persists longer after phentolamine than after piperoxan. Undulating blood pressure with a fall-rebound-fall type of curve has been observed after a single dose of phentolamine. For this reason observations of blood pressure should continue for 20 to 30 minutes, or until blood pressure resumes and remains at control values. A fall of 35/25 mm. Hg or more in blood pressure is considered a positive response.

In a previous report,<sup>35</sup> results of screening 62 hypertensive patients routinely for pheochromocytoma employing both phentolamine and piperoxan for comparison demonstrated an average decrease of blood pressure following intramuscular phentolamine of 6/5 mm. Hg, and following intravenous piperoxan an average increase in blood pressure of 17/8 mm. Hg. In a few patients alarming symptoms associated with sharp elevations in blood pressure followed intravenous piperoxan, but none resulted from phentolamine. Of 11 additional uremic patients studied who had average values for nonprotein nitrogen of 157 mg.%, "false"-positive tests to piperoxan and phentolamine were observed in four patients, and in a fifth patient not tested to phentolamine. Both drugs were considered valuable as diagnostic agents.

At the conclusion of this study, because phentolamine was considered safer and simpler for routine use, patients presenting hypertensive disease have been tested almost routinely using phentolamine alone intramuscularly or intravenously. Of 173 unselected hypertensives tested and reviewed (100 intramuscularly and 73 intravenously), six patients have exhibited "false"-positive tests, five intravenous and one intramuscular. None was thought to have pheochromocytoma. Negative results on repetitive testing in four patients suggested the possible importance of sedation. Surgical exploration disclosed an adenocarcinoma of the kidney in one, and autopsy excluded pheochromocytoma in another.

The incidence of "false"-negative tests cannot be estimated. No instance of missed pheochromocytoma has been discovered by autopsy and none has been brought to our attention.

#### SUMMARY AND CONCLUSIONS

The most important item in the diagnosis of pheochromocytoma is a high index of clinical suspicion. Once the possibility is entertained, no single test can be considered reliably diagnostic or exclusive, whether positive or negative. Suspicious tests require repetition and then confirmation by different drugs. As a provocative agent, histamine appears the most reliable. Results should be checked with tetraethylammonium and methacholine, for which additional reported experiences are needed. For routine screening of hypertensive patients in large numbers, phentolamine intramuscularly or intravenously is the drug of choice. Piperoxan, because of

distressing pressor responses in some patients, is most useful as a secondary check upon phentolamine responses. Dibenamine too often lowers the blood pressure of hypertensive patients to possess diagnostic significance. Patients whose blood pressures fluctuate widely should be submitted to both provocative and adrenolytic drugs at appropriate levels of blood pressure. Spontaneous fluctuations in blood pressure necessitate caution in the selection and interpretation of single tests. Alarming symptoms are sometimes produced by provocative procedures and by piperoxan; one death has followed the use of tetraethylammonium.

Tests must be intelligently selected for each patient and carefully performed according to accepted technics in the absence of drug interference. Under these conditions, pharmacologic tests will prove of greater diagnostic value and the incidence of "false" tests will be reduced to a minimum. All patients below the age of 60 years who have sustained hypertension deserve routine screening for pheochromocytoma by the use of an adrenolytic drug. Tests for catecholamines in blood and urine appear to be the most reliable of all diagnostic methods for pheochromocytoma but present the greatest technical difficulties. Pharmacologic tests, because of their simplicity, should be performed first, and each suspicious case should be checked by chemical methods, if possible, before submitting the patient to surgical exploration.

#### SUMMARIO IN INTERLINGUA

Pheochromocytoma es relativamente incommun sed chirurgicamente curabile. Illo es un histotumor chromaffin que appare mascate sub varie formas, notabilemente morbo vascular hypertensive. Nos sublinea le importantia de plure indicios clinic, includente febre, tachycardia, transpiration, glycosuria, e hypermetabolismo. Nos analisa le valor practic de varie tests pharmacologic que es in uso in le diagnose. In isto nos nos basa tanto super le litteratura como etiam super nostre proprie experientias. Nos signala specialmente le uso de tests provocative con histamina, tetraethylammonium, e methacholina pro patientes qui exhibi hypertension paroxysmal o fluctuante e con drogas adrenergico-blocante, phentolamina, e piperoxano pro le secernage routinari de patientes qui ha hypertension de forma continue. Es discutate le frequentia del facto e del possibile causa subjacente del tests falsemente positive e falsemente negative que nos ha incontrate. Nos presenta un delineation del technicas del tests, del selection de patientes, e del criterios de tests positive. Certe conclusiones pare justificate: (1) Nulle unic test pharmacologic es considerate como uniformemente digne de confidentia in le diagnose. (2) Le tests debe esser executate secundo exacte technicas post intelligente selection de patientes. (3) Resultatos suspecte—positive o negative—indica le necessitate de tests additional e de un confirmation per medio de altere drogas. (4) Omne patientes de etates de infra 60 annos, le quales ha hypertension continue, merita le uso routinari de tests de secernage pro pheochromocytoma.

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## FAILURE OF SALT RESTRICTION TO MODIFY BLOOD PRESSURE IN THE ACCELERATED PHASE OF PRIMARY HYPERTENSION\*†

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SALT restriction in the treatment of hypertension was first advocated more than a half-century ago.<sup>1</sup> The subsequent history of this therapeutic measure has been reviewed,<sup>2,3</sup> and it has also been reported that hypertensive patients with secondary renal damage or with primary renal disease may be benefited.<sup>4</sup>

The present study was undertaken to study further the effects of sodium chloride restriction in patients with primary hypertension who had advanced arteriolar nephrosclerosis.

### CASE MATERIAL AND METHODS

Four men and two women with documented primary hypertension, clinically in the accelerated ("malignant") phase, were studied on the wards of the Presbyterian Hospital. All were known to have developed their proteinuria subsequent to the discovery of an elevated blood pressure. At the time of admission they had the following common features: marked nonlabile hypertension, proteinuria with a few red cells in the urinary sediment, retinal exudates and/or hemorrhages, papilledema, and blood urea nitrogen values ranging from 23 to 45 mg. per 100 c.c. At the time of study all patients were afebrile and free of signs or symptoms of congestive failure or clinical uremia, venous pressures were within normal limits, and intravenous pyelography performed within the previous year or on admission disclosed either no abnormalities or else bilateral diminution in excretory function.

"Resting" blood pressures were measured each morning in the same arm by the same observer and consisted of five or more readings at half-minute intervals with the subject lying quietly and relaxed in bed, the lowest systolic and diastolic values being recorded. Following preliminary observations of from one to two weeks on a regular diet with constant fluids, the patients were placed for a period of two weeks on a diet comparable in calories but containing less than 250 mg. of sodium.

\* Received for publication May 21, 1955.

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† This study was supported by grants from the National Heart Institute (U.S.P.H.S.), the Albert and Mary Lasker Foundation, the Albert H. and Jessie D. Wiggin Foundation, and the Irwin Strasburger Memorial Medical Foundation.

## RESULTS

The results are summarized in table 1. In contrast to the effects of similar salt restriction in six patients with uncomplicated primary hypertension,<sup>8</sup> all of whom had responded with a decrease in "resting" blood pressure (from an average of 170/109 to 152/96 mm. of Hg), no significant change was observed in the present series (average, 203/125 to 202/124 mm. of Hg). Whereas there had been no material influence of salt restriction on the serum sodium concentration in the uncomplicated group, significant declines were recorded in the present series, presumably through renal loss,<sup>8</sup> even to levels as low as 118 mEq./L. Serum urea nitrogen values increased from 10 to 23 mg. per 100 c.c. in three subjects but were

TABLE 1  
Effects of Salt Restriction in Six Patients with the Accelerated Phase of Primary Hypertension

Mean "Resting" B.P.	Serum Sodium		
Mm. Hg	mEq./L.		
NaCl restriction			
5 d before	final 5 d of	start of	end of
1. 206/126	209/128	140	135
2. 194/118	193/118	135	128
3. 217/131	214/128	132	118
4. 180/124	183/127	136	126
5. 194/125	190/123	136	130
6. 228/128	224/124	134	131

not determined in the rest of the group; there had been little change in the patients without complications.

## DISCUSSION

In experimental renal hypertension, decreases in sodium intake have generally been associated with reductions in blood pressure.<sup>7</sup> Results in patients with renal disease have been more variable, perhaps related in part to the methods of study and control. While Kempner noted improvement in hypertensive subjects with or without renal disease, both Viersma<sup>8</sup> and Schroeder<sup>9</sup> found that the blood pressure was less responsive to sodium chloride restriction in those with severe or "malignant" disease.

The present study, limited to a period of two weeks of salt restriction, is added confirmation that patients with the accelerated phase of hypertensive disease responded with less of a depressor effect than do those without complications. It is impossible to state whether this is true of all patients in

this phase, whether longer periods of restriction would produce an effect, or whether other forms of renal disease would fail to react.

Although two weeks may have been an insufficient period to disclose an effect on blood pressure, it is even more noteworthy that the arterial tension remained unaffected despite reductions in serum sodium concentrations averaging 7 mEq./L. Schroeder<sup>9</sup> reported a similar finding in one patient. It has already been noted that hypertension secondary to renal damage may occur in Addison's disease or after adrenalectomy in rats.<sup>10, 11</sup> These observations support the view that certain types of renal damage may introduce pressor mechanisms unrelated to sodium metabolism, or else that the distribution of sodium and water may be different in the face of extensive kidney injury.

#### SUMMARY

1. In contrast to the depressor effect of salt restriction in uncomplicated primary hypertension, two weeks of salt restriction in six patients with the accelerated phase of the disease produced no change in blood pressure, despite significant declines in serum sodium concentration.

2. These observations support the view that pressor mechanisms associated with at least some forms of renal damage are different from those in uncomplicated hypertensive states.

#### SUMMARIO IN INTERLINGUA

In sex patientes hospitalisate con le accelerate o "maligne" phase de hypertension primari, duo septimanas de restriction de sal non esseva associate con ulle alteration del pression sanguinee in reposo in despecto del occurrentia de significative reductiones del concentration de natrium seral que attingeva un minimo de 118 mEq per litro. Isto es in contrasto con un previe studio de simile natura in patientes con non-complicate formas del morbo, le quales omnes haveva respondite per un reduction del pression sanguinee. Iste observationes supporta le opinion que certe typos de lesion renal pote introducir mecanismos pressorial non relationate con le metabolismo de natrium o forsan que le distribution de natrium e aqua es differente in le presentia de sever lesiones renal.

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## THREE TYPES OF HUMAN DIABETES\*

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THIS paper is concerned with three types of human diabetes, differentiated clinically by an excess or absence of body fat and by the presence or absence of ketosis. Many investigators have been interested for years in the relation of fat to carbohydrate metabolism in diabetes mellitus, a subject to which neither clinical study nor animal experiment can yet give a complete answer. Much that I have to describe is old knowledge and much quite new.

After the discovery that diabetes could be produced by pancreatectomy, and still more after the extraction of the anti-diabetic hormone, insulin, by Banting and Best, it was logical to accept the simple unitary view that human diabetes was caused by a lack of pancreatic insulin. But in the last 25 years a vast body of new work on the effect of other endocrines on carbohydrate metabolism has upset this simple view and led us into new problems.

I shall use two new descriptive terms invented some time ago, lipoplethoric and lipo-atrophic diabetes. The latter rare and mysterious syndrome might well have been labeled Lawrence's disease in the present state of our ignorance as to its fundamental nature. But I think eponyms should be avoided and so, whatever lipo-atrophic diabetes may prove to be, I think it is a reasonable name in the meantime.

The three types of diabetes mellitus I shall describe and discuss later are: (1) lipoplethoric; (2) insulin deficient, and (3) lipo-atrophic.

They all show hyperglycemia and glycosuria.

### I. LIPOPLETHORIC DIABETES

This is the most common form of diabetes, now met in all "civilized" countries or, more accurately, countries where there is abundance of food and money to buy it. It multiplies with prosperity. The French recognized it a hundred years ago and named it *diabète gras*, in contrast to *diabète maigre*, the thin type, to be considered later. In middle age these fat diabetics crowd our clinics, and women outnumber men by two to one. They have classic symptoms of thirst and polyuria, the women indulging especially in pruritus vulvae, with hyperglycemia and heavy glycosuria, but no ketosis. I have published other details of this well known condition before.<sup>1</sup> The appearance of such women often suggests some aspects of Cushing's disease, but the two conditions are fundamentally different.

Their diabetes promptly disappears on a reducing diet without insulin, a diet low in carbohydrate and in total calories, and even the glucose tol-

\* Presented as the Lilly Lecture at the Annual Sessions of The American College of Physicians, Philadelphia, Pennsylvania, April 28, 1955.

erance test may become normal when sufficient weight is lost. But the diabetic state recurs when diet is overstepped and weight regained, and disappears again when a troublesome pruritus drives the woman back to diet. Darnaud<sup>2</sup> has confirmed all the above and called the condition "*Diabète par encombrement adipeux.*" I prefer the term lipoplethoric.

The absence of ketosis is a striking feature of this type of diabetes. On very low carbohydrate diets they may develop a moderate ketonuria. Dur-



FIG. 1. (Case 2) Fully developed lipo-atrophy.

FIG. 2. (Case 3) a. Normal condition of patient in 1932. b. Condition of patient in 1940, showing surface-markings of liver and spleen and the lipodystrophy. (Reprinted by permission from the *British Medical Journal*.)

ing a severe intercurrent infection or a coronary thrombosis a heavy ketosis may occur, requiring the temporary use of insulin. But recovery from such events nearly always leaves them, without insulin, in their previous mild state of diabetes. As the years go on, especially in the poorly controlled, the too common complications of long-standing diabetes develop: retinopathy, nephropathy and vascular lesions.

An interesting fact in this type of diabetes is that many have produced

abnormally large babies, with a high neonatal mortality, in the years before any troublesome symptoms led to a diagnosis of diabetes. It seems certain that an undetected diabetic diathesis had been present for many years. Quite often visual disturbance from an established retinopathy is the presenting symptom of the disease in both sexes. Diabetes is a long-standing process in the middle aged of this type, not leading to ketosis and coma therefrom. Indeed, good general health may be maintained for years without any treatment.



FIG. 3. (Case 4) Fully developed lipo-atrophy.

## 2. INSULIN-DEFICIENT DIABETES

This second type of diabetes is common and well known, with its debility and rapid wasting and, before the days of insulin, the threat of death in diabetic coma. It can attack all ages, from early postnatal days to real old age—94 was the age of onset in my oldest case of severe diabetes. But it predominates in the younger diabetics, in children and in adults under 40.

To me, its essential characteristic is the presence of *ketosis*. This occurs mildly in nondiabetics who, through vomiting or starvation, have no carbo-

hydrate to burn and so turn to fat catabolism to produce the necessary calories. In severe diabetics, although a great excess of glucose floods the tissues, this cannot be burned, and a vast excess of fat catabolism can lead to a threatening ketosis. This condition is quickly removed by the injection of insulin, and this is a vital argument that their disease is essentially due to a deficiency of pancreatic insulin.

The classic symptoms of their diabetes may be temporarily checked by dieting alone, but sooner or later insulin is essential to reestablish and maintain a healthy life. When in the earliest days of insulin treatment thousands of diabetics, including myself, were brought to a good life again, it seemed that Banting and Best had produced a nearly impossible miracle. Now, when probably millions are treated by insulin, it still remains a glorious miracle to me.

#### THE EVIDENCE OF ANIMAL EXPERIMENTS

The above suggestions, made on clinical grounds, that the fat group produce endogenous insulin and the second group are gravely deficient, have been tested by experimental investigations on animals, searching for their plasma insulin by two methods, both difficult to perform and to interpret. The first, by which a series of my diabetic patients has been tested, studies the effect of diabetic plasma on the blood sugar of rats made extremely sensitive to insulin by Bornstein's method.<sup>3</sup> These rats are made diabetic by alloxan and then hypophysectomized and totally adrenalectomized, and the active insulin content of different injected plasmas judged by the fall in blood sugar. The second, on an *in vitro* diaphragm preparation bathed in different plasmas, is judged by the sugar utilization and glycogen uptake. All these results up to 1953 have been fully and ably reviewed.<sup>4</sup> Bornstein's work shows active insulin in the obese patient and none in the insulin-deficient type, but the evidence from diaphragms has been less conclusive.<sup>5,6</sup> I have, however, a recent personal communication (Vallance-Owen, London) on his diaphragm results which I am allowed to mention. He finds that the plasma insulin of the obese diabetic is normal, and that further added insulin can be recovered. On the other hand, type 2 shows no plasma insulin activity, and added insulin is not recovered, so that the plasma seems to be an inhibitor or antagonist to insulin. Furthermore, when the latter patients are tested when their blood sugar is physiologic, normal quantities of plasma insulin are found and added insulin can be recovered. What a puzzle—at least to me.

Another aspect of this problem has been illuminated by the work of Hartroft<sup>7</sup> and Wrenshall et al.<sup>8</sup> in Toronto on the histologic appearance of the pancreatic cells and the extractable insulin in dead diabetic patients. They found a great difference which seemed to relate their pancreatic findings to the severity of the disease. In the young (growth period diabetes) they found little insulin; in the older patients, much more, though not so much as in normal controls.

The above experiments are subtle and difficult but profoundly important for the proof of the fundamental difference I have suggested on clinical grounds. It must be remembered that the presence of *active insulin* is the main problem and that, though insulin may be present, the presence of antagonists neutralizing its action may be equally important.

#### FURTHER CLINICAL CONSIDERATIONS

The question arises whether the difference between these two diabetic conditions is merely a matter of degree of severity and not a fundamental difference. I think the latter, partly because the difference persists year after year. True, the lipoplethoric becomes temporarily severe, shows heavy ketosis and needs insulin during any severe infection and even after an operation, but almost invariably returns to his previous mild condition when the infection is overcome. I well remember the dictum of a wise Indian doctor in pre-insulin days, who said that his fat and prosperous patients lived well enough with their diabetes for years until a vast carbuncle killed them in diabetic coma.

It is interesting to consider the different insulin requirements of diabetics who need insulin and would quickly die without it—the insulin deficient. They can be divided into three groups.

First, there is a large group—hundreds in my practice, and I am one of them—who require only  $40 \pm$  units a day and have been on such a dose for 15 to 30 years. They remain very sensitive to these relatively small doses of soluble (regular) insulin, some 20 units morning and evening, but sugar and even slight ketosis recur whenever insulin action is exhausted. If they inadvertently miss a dose of insulin, they become violently thirsty and heavily ketosed in some four hours, but recover equally quickly after an injection of insulin. Their condition is very labile and their diabetes has been called "brittle," a term which I dislike and which has little meaning except in the breaking of the heart of the doctor who hopes to control them continuously throughout the 24 hours. I look upon them as "absolute" diabetics producing no useful endogenous insulin. Such patients live very secure lives on these two daily doses of insulin, much more so than under any type of one-dose-a-day treatment invented in the last 20 years. I think, too, that this group develops much less frequently any of the serious complications of long-standing diabetes. It is interesting that their insulin requirements are much the same as are those who become diabetic after total pancreatectomy.

It is important to note that this insulin-sensitive group needs much more insulin under certain circumstances. Infections, a coronary thrombosis and "stress" require a large increase of insulin for the time being only. Approaching and full puberty can increase insulin needs enormously, and so do most (but not all) pregnancies. To explain this it is tempting to drag in the counter influences of the growth hormone and in general the pituitary-adrenal axis to insulin action. But this is not fully proved.

A second group seems to need permanently much more insulin, 60 to 100-plus units a day, to keep well and reasonably controlled, and here again, two doses a day are much better than one. It is rare to find that newly treated diabetics need these high doses of insulin: the need develops later. One always suspects that carelessness in diet may be the answer, but when this factor is carefully regulated in hospital, most still require a large dosage.

Third, there is a very scant number of insulin diabetics who become extremely but not entirely insulin-resistant. They may come to need hundreds, even thousands, of units to keep them out of ketotic coma. This phase usually dies out and the insulin becomes average in weeks, but more usually in months. Any causal explanation is usually obscure, and I shall leave speculation alone. I shall not consider the recently discovered hyperglycemic factor of the pancreas, glucagon.

A consideration of these different clinical categories suggests that there is a moderate basal insulin requirement in many insulin-deficient patients, similar to diabetes resulting from total pancreatectomy. Others have obscure antagonizing influences requiring the injection of much more insulin to maintain health or even life.

### 3. LIPO-ATROPHIC DIABETES

This is a fascinating and very rare syndrome which, when fully worked out and understood, must throw important light on the relation and interchanges of carbohydrate and fat metabolism. In 1946 I published a six year study of the first case recognized as a new syndrome and two other similar conditions in the earlier literature. Since then two more (still living) cases have been discovered but have not been fully studied or published.<sup>9</sup> I wish to thank the two physicians concerned for permission to include the main facts concerning these two patients (cases 4 and 5) from their personal communications. Both patients are unfortunately uncooperative to prolonged study in hospital.

It should be made clear that lipo-atrophy differs from the less rare condition of lipodystrophy, where women have no subcutaneous fat above the umbilicus but a superabundance of fat below and in the legs. This strange condition has no clear disturbing effect on carbohydrate-fat metabolism.

The appearance of lipo-atrophic diabetes is illustrated (figures 1, 2, 3) and the features of the five cases are included in a table arranged in the chronologic order of their discovery. All have not been studied intensively, and so some quantitative details are incomplete. They all conform in the main characteristics of this disease, which may be temporarily placed in the following order: general lipo-atrophy with no fat depots; an intense hyperlipemia and occasional xanthomatosis; a diabetes with hyperglycemia, no ketosis but insulin-resistant; hepatomegaly with ultimate portal cirrhosis; a raised basal metabolic rate. General health and energy remain good for years, and growth and sex development are not retarded (table 1).



The details of these patients cannot be included here, and those interested might read the only detailed clinical and metabolic study (Lawrence, 1946).<sup>90</sup>

In addition to the above general picture, a few other points deserve mention. In case 1 lipo-atrophy developed after mysterious attacks of cellulitis, and the patient had the mildest form of the disease, possibly because her internal stores of fat were normal. No similar cause was present in the others, and no family or hereditary factor. All cases developed in children or young adults, so that an inborn error of metabolism might be suspected. However, case 3 had normal nutrition and health until the age of 24. It has developed in both sexes and in different races. It should be added that in case 4, the only one so tested, active insulin was found in

TABLE 1  
Lipo-atrophic Cases

Case	Sex	Age	Lipo-atrophy Duration, years	Lipemia	Diabetes			Liver	B.M.R.*
					Sugar	Acetone	Insulin units		
I	F	27	212	0	trace	0	0	+	+ 59
II	M	4 to 9	5	+	+++	0	284	+++	?
III	F	26 to 34	6	9%	+++	0	2,000	++++	+170
IV	F	12 to 16+	4+	4%	+++	0	0; diet	++	+ 45
V	F	13 to 16+	3+	12.5%	+++	0	2,000+	++	+ 30

\* B.M.R.—basal metabolic rate.

the plasma by Bornstein's technic, but could not be quantitated because of interfering plasma lipemia.

#### DISCUSSION

An attempt to explain the metabolic differences between lipoplethoric and atrophic diabetes involves much speculation. A likely, but perhaps too simple, explanation of these two types, in which a similar state of hyperglycemia without ketosis is associated with opposite states of fat storage, can be based on experiments (see Lawrence, 1946)<sup>90</sup> which prove that the end action of insulin is to turn ingested carbohydrate very rapidly into stored fat. Indeed, acting on a large meal, insulin is quantitatively more lipogenic than glycogenic. The lipo-atrophic subject cannot store fat, and the end processes of anabolism are hindered, so that sugar circulates in excess although it does produce lipemia in the blood. In the lipoplethoric the overloaded fat depots may be unable easily to accept the sugar incoming from food, and so hyperglycemia occurs. When these stores are emptied

by dieting the patients accept sugar very readily and the "diabetes" disappears, at least temporarily. This explanation may be too facile, but I think that these two conditions are due, not to insulin deficiency as described in type 2, but to a fundamental disturbance of fat metabolism and storage reacting on carbohydrate metabolism.

But all this gets us no further in the question of why lipo-atrophics cannot store fat although their blood is full of fat formed from carbohydrate. In case 1 fat disappeared after attacks of cellulitis which may have destroyed the fat cell subcutaneous tissues. In the other cases there is no clue to their etiology. I shall leave the problem with the vague speculation that there must be an unknown hormone and/or enzyme system, which I have called elsewhere the "lipopexic" factor, concerned with the deposition of fat.

Let me further consider lipo-atrophic diabetes and its metabolic problems, and how they might be illuminated by full studies in a coöperative patient. This has been possible only in case 3. It was clearly shown that three months on a very low fat diet (only 10 gm. per day) did not remove the lipemia, but the latter disappeared when the blood sugar was made normal by 2,000 units of insulin a day, and re-appeared whenever hyperglycemia was permitted to recur from insulin reduction. It took a long time to appreciate and prove this unexpected fact. Case 4 is uncoöperative for full study, but it appears that a low carbohydrate but high fat diet keeps her well, with no hyperglycemia or lipemia (personal communication). If so, it seems that ingested fat is well burned and does not produce lipemia, but that hyperglycemia is the condition that produces hyperlipemia in both these cases. Whether this carbohydrate to fat transformation occurs in the liver or elsewhere is unknown, but the question might be solved by following the fate of labeled glucose in hepatectomized animals in regard to fat formation.

Unfortunately, it seems impossible at present to produce in animals a condition of lipo-atrophy for experimental study, but much illuminating work remains to be done on patients. Would labeled glucose produce a labeled fat in the blood only, in the liver or any in the fat depots; or what would its ultimate fate be in such patients? Other modes of study could be suggested to probe into the problem.

Two other features of the lipo-atrophic syndrome deserve mention.

The *basal metabolic rate* was raised in four of the five cases, and in the fifth was found to be normal at first and was not tested again in the latter stages of the disease when, in my experience, the basal metabolic rate becomes progressively higher. In the four, the rise was from 30 to 170% plus, without any clear symptoms or signs of true thyrotoxicosis. After thyroidectomy in two cases the high basal metabolic rate persisted most mysteriously. It is easy to suggest that the excess of circulating sugar and fat which could not be stored had to be burned and so raised the metabolic turnover; or perhaps that the absence of an insulating fat layer required

and produced a high calorific consumption. Or—but here I shall stop before speculation riots further over what seems an unsolved puzzle of the disease.

*Hepatomegaly*, sometimes accompanied by splenomegaly, has been present in all five cases, and ultimately led to severe portal cirrhosis in the two cases coming to autopsy; the living cases seem to be moving in the same direction. Only in case 2, who had an attack of jaundice at age three, was there any suspicion of hepatitis or any other factor producing cirrhosis, and this too seems to be an integral part of the syndrome. Fatty enlargement of the liver and subsequent portal cirrhosis can be produced regularly in animals by high fat diets, and I look upon their cirrhosis as a result of years of hyperlipemia. It is possible also that the general enlargement of lymph glands noted in some cases is due to overloading with circulating fat (see Lawrence, 1946).<sup>90</sup>

I may have speculated overmuch. This has been only to stimulate further factual study of this fascinating, rare and obscure syndrome of lipotrophic diabetes.

#### SUMMARY

Three types of human diabetes, all showing hyperglycemia and glycosuria, are described and differentiated (1) on simple clinical grounds of excess or lack of stored body fat, and by the presence or absence of ketosis, and (b) by experimental work showing the different amounts of active insulin in their blood or extractable from the pancreas after death.

1. *Lipoplethoric diabetes*, the commonest form, is found in the obese middle aged, without ketosis and with a normal, or nearly normal, blood and pancreatic insulin content. Reducing diet controls the condition.

2. *Insulin deficient diabetes* is also a common form, especially in the young, with loss of weight, heavy ketosis, no plasma insulin and little pancreatic insulin. Insulin treatment is essential.

3. *Lipo-atrophic diabetes*. Five cases of this very rare syndrome in young people are described. It is differentiated clinically by a complete absence of body fat, and by hyperlipemia, hepatomegaly, and a high basal metabolic rate.

The fundamental differences of these three types of diabetes mellitus are discussed.

#### SUMMARIO IN INTERLINGUA

Es describe e differentiate tres typos de diabete human, omnes exhibente hyperglycemia e glycosuria. Le differentiation se face (1) clinicamente secundo excessu o carentia de immagazinate grassia corporee e presentia o absentia de cetosis, e (2) experimentalmente secundo le varie quantitates de insulina active que es demonstrabile in le sanguine o extrahibile post morte ab le pancreas. Es usate neologismos pro categorisar iste tres conditiones.

1. *Diabete Lipoplethoric* es le forma que se trova le plus communmente in patientes de etate medie con obesitate. Su frequentia cresce rapidamente in paises de alte prosperitate. Illo affice feminas plus frequentemente que masculos. Ben que le carga de sucro es grande, il ha un characteristic *absentia de cetosis*. Studios

experimental indica que pacientes con iste forma de diabete ha un normal o quasi normal contenido de insulina in le sanguine e post morte in le pancreas. Il se tracta in tal casos de un condition que pote esser regulate per mesuras dietari e un reduction del peso sin le uso de insulina.

2. *Diabete a Carentia de Insulina* es etiam commun. Illo es un forma de diabete que se trova specialmente in juveniles e in juvene adultos sub 40 annos de etate. Illo es un plus acute morbo, characterisate primo per un rapide perdita de peso e tosto per *sever cetosis*. Le datos experimental non revela ulle insulina active in le plasma e pauc insulina extrahibile ab le pancreas. Continue injectiones de insulina es indispensable pro mantener le valetude del paciente e mesmo pro prevenir morte in coma diabetic. Es discutite differente grados de carentia de insulina.

3. *Diabete Lipo-Atrophic* es un rarissime syndrome. Le sol cinque casos cognoscite es describite e illustrate. Iste forma de diabete es characterisate per le absentia complete de immagazinate grassia corporee, per hyperlipemia, hepatomegalia, e alte ratas de metabolismo basal.

Es discutite le differentias fundamental de iste tres typos de diabete human.

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## EVALUATION OF THE PRESENT-DAY TREATMENT OF PULMONARY TUBERCULOSIS \*

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WHILE the individual patient with tuberculosis is our main concern, comprehension of the problem of treatment implies also an understanding of the behavior of the disease in the population. In this country, particularly in the sparsely settled sections, the majority of people are escaping tuberculosis infection until they reach adult life. Therefore, many cases of manifest disease represent progressive primary tuberculosis, a phase in which relative specific immunity is not yet well established and dissemination of the infection in the body sometimes occurs rapidly. The early behavior of the disease seems to depend largely on the degree of native non-specific resistance. Another feature, which is partly the outcome of postponed primary infection, is the prevalence of serious and fatal tuberculosis in the later years of life, particularly among elderly men. While this reflects a lesser toll among the young, it complicates the problem of treatment, because older people fare less well, the chronicity of their disease usually being more solidly established.<sup>1,2</sup>

Of all the factors which have to do with response to treatment and ultimate prognosis, the extent of pulmonary involvement at the time of diagnosis is one of the most important, the gravity of advanced disease having been recognized for a long time. Among the more recent reports are those of Alling and his associates<sup>1,2</sup> relating to patients in the Biggs Hospital (Ithaca, New York) district. The after-history reveals that 70% of those with far advanced tuberculosis at the time of diagnosis died during the subsequent decade, while only 25% achieved a state of arrest; 80% of the deaths occurred in the first three years. In contrast, among the patients with moderately advanced disease at the time of diagnosis, only one fifth died of tuberculosis during a similar period, while one tenth died of other causes; three-fifths achieved a state of arrest. Since diagnosis of the disease in its early phases is the exception and not the rule, the implications are serious, especially in thickly settled urban areas where tuberculosis is so deeply entrenched. In the metropolitan area in and around New York City, for instance, in 1953, 12,843 patients with pulmonary tuberculosis were admitted to institutions.<sup>3</sup> Among these, 9,646 were new admissions, in only 12% of whom was the disease in a minimal stage; 3,197 were re-admissions, and 7% of these were in a minimal stage. The experience of recent years does not indicate much improvement: in 1947, in institutions in the same area, the percentage of minimals among admitted and re-admitted patients

\* Presented at the Thirty-sixth Annual Session of The American College of Physicians, Philadelphia, Pennsylvania, April 29, 1955.

was 10 and 6, respectively.<sup>4</sup> Thus it is seen that, while the disease is being forced back on many sides, treatment still is needed mostly for moderately advanced and far advanced cases, and is therefore all the more complex.

The availability of streptomycin, para-aminosalicylic acid and isoniazid and the experience with these effective drugs have brought about rapid and profound modifications. Compared with rest alone, which for many years has been the basis of treatment, the favorable response to chemotherapy is generally more certain and more sustained, reflecting the relatively rapid inhibition of bacterial growth. The promptness of the effect varies greatly from case to case; in some, a critical drop of febrile temperature may occur within a few days of the initiation of chemotherapy, while in others gradual defervescence may require six or eight weeks or even longer. These differences are related to the acuteness of the pulmonary lesions, the extent of tissue destruction, the intensity of the infection and the resistance of the patient against it.

The local changes in pulmonary lesions under chemotherapy are substantially the same as those observed in the natural course of the disease; the difference is mainly in the greater rapidity and degree of resolution and fibrosis.

The antibacterial effect of the drugs is usually well sustained during the early months of treatment, and this permits resolution to proceed more completely than is observed under rest treatment alone. At the same time, exudation from pulmonary cavities is often completely stopped. These changes can be verified by serial roentgenograms, the diminution and frequent disappearance of râles, and the subsidence of expectoration. The complete drying out of cavities, even though these remain unhealed and in free communication with the bronchial tree, is not duplicated under the conditions of rest treatment alone. Bronchial spreads to other parts of the lungs do not occur very often during effective chemotherapy, obviously because bacilliferous exudate is no longer spilling from cavities. For the same reason, distant implantations, as in the larynx and the intestines, are infrequent, and there is increasing evidence that disseminations by way of the blood stream are also being prevented.<sup>5</sup>

Numerous studies have been completed and are being continued on the effects of chemotherapy on tubercle bacilli implicated in human disease. In many instances bacilli capable of taking the acid-fast stain are demonstrable in lesions resected from the lungs or elsewhere, but some of these fail after inoculation to produce disease in guinea pigs, and they grow in an abnormal manner, or not at all, on artificial culture media.<sup>6,7</sup> Similar findings are reported in a small minority of specimens of sputum from treated patients. The growth characteristics are obviously greatly altered, and it is being debated how often these morphologically intact bacteria are actually dead. After treatment with isoniazid an attenuation of pathogenicity of bacilli recovered from sputum and directly from lesions is fre-



quently demonstrated simultaneously with the manifestation of drug resistance.<sup>8, 9, 10, 11</sup> It is not entirely clear whether this change, demonstrable upon inoculation in rabbits and guinea pigs (but not necessarily in mice), reflects a lesser pathogenicity for the human host. There is some evidence, at least in the judgment of certain workers,<sup>12</sup> that such may be the case, in view of the infrequency of spreads of the disease during many months of treatment with isoniazid alone. In our own experience, spreads have been observed during the early months, but seldom later; but this may be seen under other regimens as well.

The limitations of chemotherapy relate mainly to the toxicity of drugs (which at the present time can usually be circumvented), the usual need for many months of continuation, and the possible development of drug resistance during this time. Drug resistance, of course, can be determined only by culturing of bacilli isolated from the sputum or some other source; it is necessary for the best management of cases.

The administration of two drugs concomitantly is now considered a routine necessity in most cases. In the early days of chemotherapy streptomycin was given alone, but the development of bacterial resistance against it almost uniformly within three or four months nullified its further action. The clinical effects, sometimes striking, were often only temporary. While life was prolonged in many advanced cases, the late relapse and death rate was high.<sup>13, 14</sup> Streptomycin alone is not very effective in preventing the development of complications. In the case of isoniazid the attenuated pathogenicity of resistant strains of bacilli is unique, and this may be paralleled, at least in some cases, by continued clinical improvement under its influence. Whether this can be depended upon generally is questioned by various observers.

Of the pairs which can be chosen from the three drugs mentioned, streptomycin plus para-aminosalicylic acid and isoniazid plus para-aminosalicylic acid seem to be the most serviceable in delaying the manifestation of drug resistance;<sup>15</sup> the latter may be more effective in acutely active cases. Either pair has the added virtue of reserving one of the two more potent drugs for possible future needs. In our own clinic, and also in many others, streptomycin and isoniazid are used simultaneously only for very urgent cases, such as meningitis and generalized hematogenous tuberculosis. In such cases some prefer also to add para-aminosalicylic acid, because of the possibility of delaying the manifestation of drug resistance still further. To what extent this can be expected is still to be determined.

It has become clear that, with relatively few exceptions, a chosen regimen of chemotherapy should be continued with only minor modifications and without interruption for many months. Streptomycin is seldom prescribed in amounts larger than 1 gm. daily, and this only in the acute phases of serious disease; as control is obtained, 1 gm. every second or third day usually suffices, and this lessens the risks of toxic effects. The well tolerated



and usually effective dose of isoniazid is 5 to 6 mg. per kilogram of body weight per day; in serious cases, 8 to 10 mg. are often prescribed. Large amounts of para-aminosalicylic acid are required to maintain an adequate blood level (10 to 12 gm. PAS or 15 gm. Na PAS daily).

Before effective chemotherapy became available, frequent resort was had to collapse of the lung with artificial pneumothorax or some other measure, but this has changed radically. Pneumothorax was known to be very risky in acute pneumonic tuberculosis but, because of its occasional dramatic success, it was often applied as a desperate, last-resort measure. The incidence of acute serous pleurisy, tuberculous and mixed-infection empyema, broncho-pleural fistula and other complications was high, and it is debatable whether the benefits outweighed the evil consequences. Chemotherapy now can be relied upon almost uniformly to control the disease in its early acute phase, and the incidence of these serious complications has diminished dramatically. Artificial pneumothorax is now reserved for the relatively few cases in which its suitability and probable success seem to be assured; and the various types of plastic operations, such as the standard thoracoplasty, are used on a more selective and restricted scale. Surgical resection of lobes, entire lungs, or smaller segments in which destruction of tissue has occurred and infection still lurks with the threat of causing relapse, is feasible in many cases with relatively small risk and great assurance of improving the prognosis immensely. The ultimate success of resection depends greatly on the careful selection of cases according to strict criteria which include recognizing the time when maximal benefit has been obtained from chemotherapy and rest treatment, and when further delay might invite an exacerbation due to the development of bacterial drug resistance.

To what extent the use of chemotherapy may justify the modification, shortening or abandonment of rest treatment and its known advantages remains to be demonstrated convincingly. Because of the early effects of drug treatment, especially the marked symptomatic benefit, rest treatment may be abandoned with undue haste. The lagging of anatomic healing behind the improvement and disappearance of symptoms is so well known that a precautionary word is hardly necessary. While bodily resistance may be built up during the period of control of the disease by chemotherapy, this defense may or may not be adequate when the effects of the drugs are exhausted. Therefore, the additional benefits of rest should be afforded patients with active disease. Various trials of "early ambulation" and the complete substitution of chemotherapy for rest have been reported with a degree of initial success.<sup>16, 17</sup> These deal mostly with advanced disease after the early, more acute phases have been passed and a degree of chronicity has been established. The successes may be only partial, the rate of late relapse may be high, and the practice is not to be advocated in the early and more acute cases.

The character and degree of acuteness of the pulmonary lesions may

have more prognostic significance than their extent. Chronic fibroid lesions may not be greatly altered by chemotherapy, even though the symptomatic response may be good. Acute exudative lesions of equal extent and volume may respond very well, especially if their origin is recent and caseous necrosis is minimal; then resolution often is extensive, leaving behind small residues which may continue to natural healing or be readily removed by surgery. Without adequate and early treatment, acute lesions frequently go on to extensive necrosis within several weeks or months, and then the residuals are voluminous, threatening relapse, and often necessitate extensive surgery. The acute and subacute cases, especially in young people, frequently represent the results of progressive primary infection and are highly unstable. The importance of early diagnosis and prompt treatment is obvious.

Considering the practical problems of patients requiring treatment, it cannot be ignored, especially in urban centers where the disease is most prevalent, that many of these people come from crowded and blighted areas, that some have been hard laborers, and that they may have little or no conception of hygienic living, let alone the conditions imposed by disease. Some are homeless derelicts, including the alcoholics and other social misfits, who have been forced into circumstances in which tuberculosis strikes with relative ease.<sup>18</sup> The proper care of these patients is possible only in institutions adapted for the purpose; these hospitals will be needed for a long time to come. The future chances of recovery of most patients are improved by preliminary treatment in the hospital; after adequate improvement, some may continue at home without disadvantage provided conditions are right.

It has become the general practice, well supported by experience, to administer chemotherapy in virtually all cases of manifestly active tuberculosis. The chief exceptions are those cases in which the disease is of limited extent and is known or suspected to be fibroid and possibly well arrested. Their status is best determined by a period of weeks or months of observation, during which cultures of sputum or gastric contents are obtained. Such studies may prove the adequacy of healing and avoid unnecessary treatment, while, in other cases, substantial grounds for prolonged treatment may be established.

Consistent continuation of chemotherapy, once started, has been found desirable in most cases of tuberculosis for a year or more. There are many qualifications of this concept which should be respected according to the careful evaluation and judgment of the individual case. In this connection it should be emphasized that retreatment with chemotherapy after insufficient original treatment or after relapse for any reason is usually not so satisfactory as original treatment. The chief reason is the occurrence of bacterial drug resistance, often necessitating the use of other drugs which are generally less effective and more disadvantageous because of their lower antibacterial potency and their possible toxicity. These include viomycin,

pyrazinamide and oxytetracycline. On the basis of experience, an attempt is always made at the start to estimate the probable response to a given regimen, possibly leading up to surgery.

In the far advanced chronic cavitory active case of tuberculosis affecting both lungs, it is usually anticipated that therapy may control the symptoms and prolong life but that a permanent arrest of the disease is unlikely. Occasionally, such favorable effects may allow extensive fibrosis to develop, leading to great impairment of the respiratory function. Para-aminosalicylic acid may be chosen to be given concomitantly with either streptomycin or isoniazid, and such a regimen may be continued until its effects are exhausted, when a change may be made to a combination of para-aminosalicylic acid and the remaining drug, or to an entirely new combination, such as isoniazid and pyrazinamide, or isoniazid and viomycin. As the infection is controlled, some of these patients no longer require systematic bed-rest but within reasonable limits may be permitted to undertake light activities. A high relapse rate is to be expected,<sup>10</sup> and in only a few can this be prevented by surgical procedures. Some of these patients who are elderly are saved from fatal tuberculosis to die of some other condition.

Among the moderately advanced cases, important distinctions are made between the chronic unilateral fibrocaceous or fibrocavernous types and the acute pneumonic types. In the former, a regimen of chemotherapy and rest treatment may accomplish its purpose within a year to two years. During the early part of this time it can often be determined whether surgical resection or some other surgical treatment may hasten recovery, and decision can be made as to the optimal time for such intervention. In the acute exudative types, the rate of response and the speed and completeness of resolution can be determined only after some months of treatment, during which the patient should be in bed. Eventually, one judges how much tissue has been destroyed, the possibilities of further adequate healing, and the possible need of surgery or other measures.

In the case of minimal or very limited tuberculosis it is highly important to determine as soon as possible the nature of the lesion. A small fibroid cavity may never heal naturally, even though symptoms may subside rapidly and bacteria may disappear from the sputum. Surgical resection of the area may be justifiable within several months after diagnosis and the institution of therapy. This is particularly true of young people. A lesion of similar extent but of a predominantly exudative character can be expected to resolve and heal by fibrosis in a great majority of cases, although one to two years will elapse before fibrosis can be considered well established. Because of the favorable outlook, a period of rest at the start is desirable, but some of these patients under chemotherapy may resume light or part-time work under medical supervision earlier than would be advisable following the rest "cure" alone. With good treatment, almost all of these patients will recover and remain well.

While there is some unanimity that rest should be a fundamental part of the early treatment of active cases, there are considerable differences in practice when it comes to the resumption of activities. For some patients, judged to have good resistance and well stabilized disease, the period of idleness may be shortened, and it may be reasonable for them to consider chemotherapy an adequate substitute for a long convalescence. Nevertheless, there should be some restriction of their activities. In chronic advanced cases, temporarily controlled by chemotherapy, the patients may be instructed to regulate their activities within the limits of their own sense of fatigue and endurance. These patients frequently cast off tubercle bacilli intermittently, and measures should be taken to safeguard others with whom they may come into contact.

#### SUMMARY

The problem of treatment of pulmonary tuberculosis is made difficult and complicated because of the advanced stage of the disease in most cases.

Chemotherapy has more certain and sustained effects on tuberculosis than rest treatment alone. Resolution and fibrosis are more rapid and complete, but the healing processes are substantially the same as those observed in the natural course. Necrosis of tissue may be averted or retarded.

Chemotherapy is indicated in all cases of manifestly active tuberculosis, and patients should have the added benefit of rest treatment, at least until the disease is controlled. Most patients profit by undergoing institutional treatment at the start, and many for long periods of time. Under suitable conditions, some may complete treatment satisfactorily at home.

Regimens of chemotherapy, once started, usually should be continued for a year or longer without interruption and with only minor modifications. With few exceptions, two drugs are administered simultaneously in order to delay bacterial drug resistance.

In present-day treatment, the possibilities of success depend more than ever before on early diagnosis, the proper evaluation of the individual case, and the planning and execution of long term management. In far advanced cases life may be prolonged, but the eventual relapse and mortality rates are high. In less advanced and minimal cases the prospects of permanent recovery are excellent; in some, this is best assured by the aid of surgery.

#### SUMMARIO IN INTERLINGUA

In le tractamento de tuberculosis pulmonar le principal handicap es semper le retardation del diagnose: 90 pro cento del casos es jam avantiata quando le tractamento es initiate.

Le effectos favorable de chimotherapie es plus certe e plus perdurante que illos del tractamento a reposo sol, sed le reactiones initial es multo variabile. Deferrescentia pote occurrer intra alicun dies o solo gradualmente post sex septimanas o octo septimanas o mesmo plus. Isto depende del intensitate e del acutitate del

infection, e del grado del histodestruction e del resistentia del patiente. Le processus del curation anatomic es extensamente identic con illos observate in le curso natural del morbo, sed post que iste processus ha comenciate, illos progrede generalmente de maniera plus rapide e complete. Un resultado unic es le frequente desiccation de cavitates que mantene libere communicationes con le bronchos. Bacillos tubercular dispare frequentemente ab le sputo. A iste puncto le periculo de un dispersion bronchial del infection es eliminate, al minus temporarimente.

Bacillos tubercular in persistente lesiones necrotic es alterate per un continue chimotherapia durante 8 o 10 menses o plus. Sed mesmo si iste bacillos non cresce in medios artificial e non infice porcos de India, alicunes inter illos debe esser considerate como capace a recomenciar lor crescentia e a redisveloppar lor pathogenicitate.

Isoniazido o streptomycina o acido para-aminosalicylic in administrationes isolate exerce effectos therapeutic, sed iste effectos pote esser reducite o annullate post alcun menses per le predominantia de stirpes del bacillos que es resistente al drogas usate. Le disveloppamento del resistentia es grandemente retardate per le uso de duo drogas in combination, preferibilemente isoniazido plus acido para-aminosalicylic o streptomycina plus acido para-aminosalicylic. Le combination de isoniazido e streptomycina es a evitar, excepte in urgentissime casos, a fin de reservar un del plus potente drogas pro eventualitates futur.

Collapsotherapia se usa multo minus frequentemente. On prefere resectiones chirurgic si convenibile.

Tractamento a reposo es ancora indicate in casos active pro meliorar le resistentia general e le resultado final. In casos paucos o moderatemente avantiate iste typo de tractamento require un o duo annos. In avantiatissime casos il ha frequente recidivas, sed in le majoritate de illos le vita del patiente es prolongate.

In planar le curso del tractamento il es importante que le conditiones externe es organisate de maniera que le chimotherapia non debe suffer uller interruption.

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**PAROXYSMAL NOCTURNAL HEMOGLOBINURIA:  
REPORT OF FOUR CASES, WITH OBSERVA-  
TIONS ON TREATMENT WITH 3,3'-METH-  
YLENEBIS (4-HYDROXYCOUMARIN)  
(DICUMAROL) \***

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PAROXYSMAL nocturnal hemoglobinuria (PNH) is a chronic hemolytic anemia characterized clinically by hemoglobinuria, exacerbation of the hemolytic process during sleep, leukopenia, thrombocytopenia, and a marked tendency to spontaneous thrombosis. The hemolysis has been demonstrated to be due to an acquired defect of the red blood cells, the cause of this defect being completely unknown. These defective cells are abnormally susceptible to hemolysis in their own or homologous normal serum.

Considerable work has been done in an effort to elucidate the mechanism of the hemolytic system. Ham and others, working in the late 1930's demonstrated that PNH red cells are readily hemolyzed at a slightly acid pH.<sup>1</sup> This is the basis for the Ham test, which has been used as a specific test for the disease. The clinical significance of the acid-susceptible cells in the PNH patient is not clear. Consistent lowering of the blood pH during sleep has not been demonstrated, and the production of alkalosis in patients has not uniformly resulted in a decreased rate of hemolysis.

The most important recent work on the factors in blood responsible for hemolysis in PNH has been that of Crosby.<sup>2-6</sup> He demonstrated that hemolysis occurs through the interaction of two separate factors, and that the action of these two hemolysins is opposed by two inhibitors. The degree of hemolysis at any given moment is related to the balance between these four factors. He further showed that one of the inhibitors is easily destroyed by thrombin in vitro, the absence of this inhibitor then resulting in markedly increased hemolysis of the PNH cells. This ability of thrombin to accelerate hemolysis of PNH cells is the basis of the Crosby test<sup>8</sup> for this disease.

Crosby first attempted the use of bishydroxycoumarin in paroxysmal nocturnal hemoglobinuria, reasoning that if bishydroxycoumarin would decrease the rate of formation of thrombin, and thus permit accumulation of the thrombin-sensitive inhibitor, it should permit longer survival of the

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PNH red cells. He found that bishydroxycoumarin did have a tendency to decrease the rate of hemolysis, but that its effect was easily overcome by infections or other stress conditions which typically induce a hemolytic crisis in PNH patients. He concluded that bishydroxycoumarin was not routinely indicated in these cases; the one certain indication was evidence suggesting the spontaneous thromboses which are commonly encountered in PNH.<sup>8</sup>

It must be pointed out that it is extremely difficult to evaluate the results of therapy in paroxysmal nocturnal hemoglobinuria because of marked spontaneous fluctuations in the severity of the disease. This necessitates the accumulation of experience with many cases before final conclusions may be drawn. Accordingly, the results of bishydroxycoumarin treatment are presented in four newly diagnosed cases. In addition, the patients to be reported illustrate certain difficulties in the establishment of the correct diagnosis.

#### CASE REPORTS

*Case 1.* A 66 year old man was admitted to the Stanford University Hospital on December 10, 1953, complaining of recurrent weakness of three years' duration.

Three years before admission he had noted the gradual onset of weakness and exertional dyspnea. Exacerbations of these symptoms recurred at intervals of two to three months, associated on each occasion with the passage of red-brown urine. With most of these attacks there were sharp left lower quadrant pains and nausea. Two years prior to this admission an exploratory laparotomy was performed at another hospital, with no significant findings. Due to persisting profound anemia, the patient received numerous transfusions during this three-year period, and took large amounts of iron by mouth. In the two months prior to admission the weakness became more pronounced than before, and there was a weight loss of 20 pounds.

Past history included a prostatic resection for median bar obstruction five years prior to this entry.

Physical examination revealed a pale, thin, elderly man. Positive findings were a generally tense and tender abdomen, and possible hepatosplenomegaly.

*Laboratory Results:* Hemoglobin, 9 gm. per 100 ml. Red blood cells, 3.0 million/cu. mm. Packed cell volume, 28%. White blood cells, 4,000/cu. mm., with a normal differential count. Reticulocytes, 5.4%. Direct Coombs' test, negative. Urine: brown and cloudy, with a 1 plus protein reaction. The sediment showed many red blood cells and granular casts, and was loaded with hemosiderin. Sulfobromophthalein excretion test, normal. Cephalin flocculation, 2 plus. Urine urobilinogen, positive to a dilution of 1:50. Serum bilirubin, 0.1 mg. per 100 ml. direct, and 1.0 total. Fecal urobilinogen varied between 69 and 227.4 mg. per 24 hours.

*Course:* For three years this patient had been considered to have chronic renal disease secondary to his former prostatic obstruction, and this was the initial impression at the time he was admitted to this hospital. After several days it was noted that the urine was darker in the early morning than later in the day, and that the brown color was in the supernatant after centrifugation. This was benzidine-positive, establishing hemoglobinuria. A positive Ham test confirmed the diagnosis of paroxysmal nocturnal hemoglobinuria.

On the sixth hospital day paresthesias and weakness of the right arm were noted. The patient was then placed on a régime which produced a very marked hypochloremic alkalosis, although it was recognized that milder degrees of such treatment had not been successful with other cases. The diet was low in chloride, and with it

the patient received 4 gm. of sodium bicarbonate six times a day. The carbon dioxide combining power of his blood rose to 71 vol.%. During this régime he had a convulsion involving only the right leg. On the twelfth hospital day fever and increased hemoglobinuria occurred. On the twentieth day, no improvement having been noted, bishydroxycoumarin was started. Five days later he recovered full use of his right arm. Unfortunately, bishydroxycoumarin was omitted the following day, and the prothrombin times were never again brought to the desired level. Four days after that he was again febrile and complaining of abdominal pain, and in two more days had a sudden onset of right hemiplegia and aphasia, with rapid progression to death. Postmortem examination revealed thromboses of the left middle cerebral artery, the sagittal sinus and the splenic artery.

*Summary:* This case of paroxysmal nocturnal hemoglobinuria was of three years' duration. Initial episodes were thought to be renal infections. Spontaneous thrombosis and hemolytic crises occurred in the hospital. Bishydroxycoumarin was started, but adequate prothrombin times were not maintained and a fatal thrombosis ensued.

*Case 2.\** A 49 year old ex-chauffeur and sailor was admitted to the San Francisco Hospital on January 10, 1954, because of four days of weakness, chilly sensations, abdominal pain and red urine.

During the preceding four years he had had 10 admissions to the San Francisco Hospital for acute and chronic alcoholism. Associated diagnoses were peripheral neuritis, cirrhosis of the liver, lobar pneumonia complicated by lung abscess, cutaneous diphtheria and duodenal ulcer (for which a subtotal gastric resection had been done). Leg ulcers and thromboses of many of the superficial veins of both upper and lower extremities had been noted from the time of his first admission, and ill-defined abdominal pain was a frequent complaint. On one occasion he "fainted" and had a temporary palsy of the seventh, eleventh and twelfth cranial nerves on the left. He received eight blood transfusions during this period, two of them followed by shaking chills.

During these admissions his hemoglobin generally ranged between 7.0 and 10.0 gm. per 100 ml., the red cell count between 1.4 and 4.0 million per cubic millimeter. The usual leukocyte count was less than 7,000 per cubic millimeter. Reticulocyte counts varied between 1.0 and 16.0%. The bone marrow on two occasions showed normoblastic hyperplasia. On several occasions the urine was described as amber colored.

For five months prior to his present entry he had been in a hospital for control of his chronic alcoholism. At that time there was an episode of weakness, abdominal pain and red urine which lasted four to five days, and a diagnosis of "nephritis" was made.

Physical examination revealed an asthenic, middle aged male with definite icterus, multiple thromboses of superficial veins of the extremities, and scars of many healed pretibial ulcers, as well as one open lesion 2 cm. in diameter. The liver was firm and extended 6 cm. below the right costal margin. The spleen was not palpable.

*Laboratory Results:* Hemoglobin, 8 gm. per 100 ml. Red blood cells, 2.2 million per cubic millimeter. White blood cells, 5,900 per cubic millimeter. Platelets, 330,000 per cubic millimeter. Reticulocytes, 10.5%. Urine: burgundy color, 3 plus albumin, loaded with "tobacco-stained" epithelial cells and occasional red blood cell cast. The urine was guaiac-positive. Hemosiderin was present. Coombs' (direct and indirect) and Donath-Landsteiner tests were negative. Ham test, positive.

\* Permission to report this case was given by Dr. Henry Brainerd, University of California School of Medicine, San Francisco, California.

*Course:* For the first eight days he had fever, abdominal pain and hemoglobinuria. He was started on bishydroxycoumarin therapy on the sixteenth hospital day, but left the hospital without medication.

*Twelfth Admission (March 5 to April 10, 1954):* He was well until two days prior to this admission, when he developed weakness, shortness of breath, backache and shooting pains in his thighs. His urine became burgundy in color at the same time. Laboratory studies showed a hemoglobin of 7.6 gm. per 100 ml., and a white cell count of 6,900 per cubic millimeter. He was started on bishydroxycoumarin again, and was asymptomatic with clear urine from the third hospital day. He was discharged with instructions to continue on bishydroxycoumarin.

*Thirteenth Admission (May 2 to May 24, 1954):* Though the patient was still taking bishydroxycoumarin and was apparently well controlled with respect to prothrombin times, red urine re-appeared the day before entry. He admitted a heavy alcohol intake. Blood hemoglobin was 9 gm. per 100 ml.; white cell count, 3,450 per cubic millimeter. His urine cleared quickly and remained free of hemoglobin, although his prothrombin concentration during the last week was allowed to go as high as 55%.

*Fourteenth Admission (June 29 to September 16, 1954):* In the interval prior to this entry the patient failed to return for check-ups. He continued to take bishydroxycoumarin but finally exhausted his supply. His urine became red again, jaundice was apparent, and he was readmitted. Following entry he had an acute episode of delirium tremens. At this point bishydroxycoumarin was given up as impractical for this type of patient.

*Summary:* This patient with paroxysmal nocturnal hemoglobinuria was a chronic alcoholic, and his early symptoms of the disease had been attributed to alcoholism and renal infection. The spontaneous thromboses which occur so frequently in this disease were evident. Treatment with bishydroxycoumarin became impossible due to lack of coöperation from the patient. Bishydroxycoumarin seemed to be of benefit in this case when taken in adequate dosage, but following one alcoholic bout there was a hemolytic crisis despite apparently adequate prothrombin control.

*Case 3.\** A 54 year old roofer was first admitted to the Palo Alto Hospital on September 8, 1951, with an atypical pneumonia for which he was treated with penicillin. Cold agglutinins were positive to a dilution of 1:256. Past history revealed an episode at age 12 when his "entire body swelled," and several months of bed-rest were prescribed. Two days after the present admission, when the fever was gone, dark urine was noted which persisted for several days. The urine contained 3 plus albumin, occasional red blood cells and many coarse granular casts. The red cell count, which was 4.0 million/cu. mm. on admission, had dropped to 3.6 million/cu. mm. one week later. The white cell count varied between 3,900 and 8,600 per cubic millimeter, with a relative lymphocytosis and monocytosis. He was discharged as asymptomatic on September 15, 1951.

*Second Admission (February 10, 1953):* The patient was admitted on this occasion for an acute bronchitis of four days' duration, associated with "bloody" urine. Cold agglutinins were present to a titer of 1:160, and he was treated with chlortetracycline. During this stay he had three short episodes of epigastric and right flank pain and tenderness. One observer thought he felt the tip of the spleen. On admission the hemoglobin was 8.8 gm. per 100 ml., the white count 2,400 per cubic millimeter. Platelets were counted at 80,000 per cubic millimeter. The urine was

\* Permission to report this case was given by Dr. Morris Gutterman, Palo Alto, California.

reddish, with 4 plus albumin and 20 to 30 red blood cells per high power field. Coombs' test (direct and indirect) was negative, as was the Donath-Landsteiner test. The patient was discharged as well on March 5, 1953.

*Third Admission (February 7, 1954):* This time there had been chills, fever, cough and dark brown urine for 24 hours. Hemoglobin, 9.6 gm. per 100 ml. White blood cells, 4,300 per cubic millimeter. The urine was dark brown and had a 4 plus albumin reaction. There were five to 10 leukocytes, none to two erythrocytes, and 10 to 15 granular casts per high power field. Cold agglutinin titer 1:160. Again recovery was rapid and complete, and the patient was discharged on February 20, 1954.

*Fourth Admission (April 5, 1954):* For the first time the patient had not been completely well between admissions. At intervals of one to four weeks, on arising in the morning he had noted dark brown urine, which cleared by noon. Associated with these episodes were epigastric and flank pains. For the week prior to admission brown urine had been constant, and progressive weakness was becoming evident.

Physical examination revealed slight tenderness in the left upper quadrant and a questionably palpable spleen. The hemoglobin was 9 gm. per 100 ml., the white blood count, 4,400 per cubic millimeter. Cold agglutinins were again positive, 1:160. The urine was dark brown and had a 4 plus albumin reaction. There were eight to 15 leukocytes, three to five erythrocytes, and 25 to 30 granular casts per high power field. During the first part of his hospital stay the urine continued to be brown, and there were intermittent attacks of epigastric and left flank pain. A Ham test confirmed the diagnosis of paroxysmal nocturnal hemoglobinuria, and on the eighteenth hospital day bishydroxycoumarin therapy was instituted. Coincident with the attainment of therapeutic levels of the prothrombin time, the urine became normal in color and remained so.

*Fifth Admission (June 24, 1954):* In the absence of an obvious infection or other precipitating cause, dark brown urine reappeared. The prothrombin concentration had risen to 40% at the time his symptoms reappeared. On the third hospital day ethyl biscoumacetate was substituted for bishydroxycoumarin. Prothrombin concentrations remained between 10.2 and 26.5%, and the patient was discharged on the sixth hospital day.

Since that time he has been free of complaints and has been able to perform manual labor, although his urine is frequently dark in the early morning. His prothrombin concentrations have been kept below 30%.

*Summary:* This case of paroxysmal nocturnal hemoglobinuria had been symptomatic for three years. At first, intermittent episodes associated with respiratory infections were believed to be a renal infection and, later, acquired hemolytic anemia. When the true diagnosis was established, bishydroxycoumarin or ethyl biscoumacetate kept the hemolysis down to a level which permitted a normal life.

*Case 4.* (Only a brief summary will be presented at this time. This case was complicated by an acquired hemolytic anemia, and full details will be reported in a separate paper.<sup>6</sup>)

A 41 year old Filipino man was admitted to the Fort Miley Veterans Administration Hospital in San Francisco on January 5, 1954. In 1944 he had developed anemia and easy bruising. Red cells, white cells and platelets were depressed, and the marrow was reported to be acellular. He was considered to have aplastic anemia.

In the following years there had been recurrent episodes of anemia, icterus, dark

urine and right upper quadrant distress. Many transfusions had been given, and many of these had been accompanied by reactions.

The diagnosis of paroxysmal nocturnal hemoglobinuria was confirmed on the basis of positive Ham and Crosby tests. The patient was given bishydroxycoumarin, and gross hemoglobinuria ceased when prothrombin times became adequately depressed (figure 1).

A second admission occurred three months later because of fever and grossly "bloody" urine. Investigation revealed that the prothrombin concentrations had been poorly controlled, ranging between 30 and 60%. The bishydroxycoumarin dosage was readjusted and the patient was discharged.

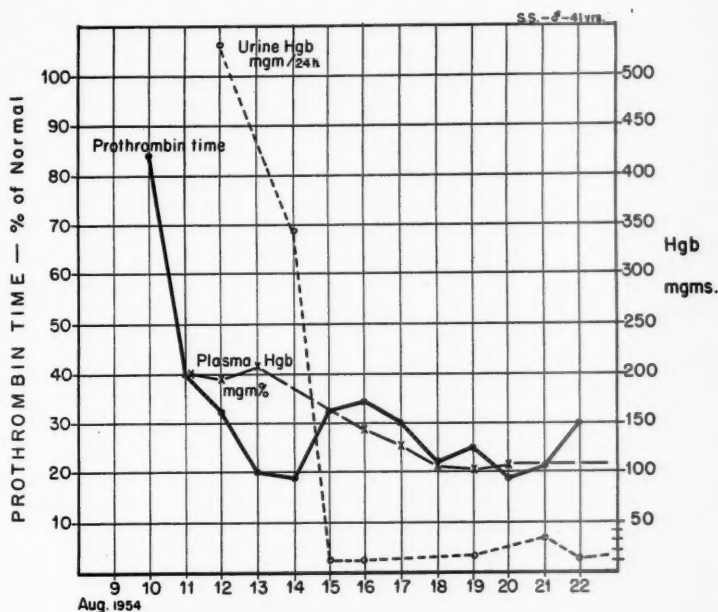


Fig. 1. (Case 4) Effect of bishydroxycoumarin on the prothrombin time and the plasma and urine hemoglobin content.

The third entry was three months later. Again the prothrombin times were out of control. Figure 1 shows the response to adequate dicumarolization. Gross hemoglobinuria ceased, and plasma hemoglobin levels definitely dropped. At this time the presence of a hemolysin in his serum which destroyed normal red cells was clearly established.

**Summary:** This case of paroxysmal nocturnal hemoglobinuria was of 10 years' duration. Initial episodes were mistaken for aplastic anemia. Bishydroxycoumarin was administered with obvious benefit, but complete control was hampered by the development of a hemolysin in the patient's blood.

## DISCUSSION

The diagnosis of paroxysmal nocturnal hemoglobinuria is usually not considered unless there is striking hemoglobinuria only in the early morning. The clinical course of the disease, however, is extremely variable. Either hemoglobinuria may be so constant that nocturnal exacerbation of the hemolytic process is not noticeable, or the rate of hemolysis may be so slow that gross discoloration of the urine is not evident.

An understanding of the pathogenesis of hemoglobinuria is essential at this point. Hemoglobinuria is the result of intravascular hemolysis. Hemolysis of this type is relatively rare. Normally, and in the more common hemolytic anemias, the destruction of red cells is mainly intracellular. In PNH both intravascular and intracellular hemolysis occur. Intracellular hemolysis may elevate the level of bilirubin in the plasma, but it does not increase the amount of free hemoglobin above its normal level, which is less than 5 mg. per 100 ml. of plasma. Levels of free hemoglobin above this indicate intravascular hemolysis. Hemoglobin appears in the urine when the plasma level rises above the renal threshold of 100 to 150 mg. per 100 ml. of plasma. This threshold is determined, at least in part, by the renal tubule cells, which reabsorb hemoglobin from the glomerular filtrate. If this process of reabsorption is prolonged, hemosiderin will be deposited in the renal tubule cells. Hemosiderin granules also appear in the urine sediment, where they may be detected by the Prussian blue stain. This test for hemosiderin in the urine sediment is a very useful way to prove the presence of chronic, low grade hemoglobinuria in cases where gross discoloration of the urine is not obvious. The only causes of hemosiderinuria other than hemoglobinuria are myoglobinuria and hemochromatosis. The deposition of hemosiderin in the renal tubules may eventually depress the renal threshold for hemoglobin. It has been reported as low as 30 mg. per 100 ml. in a case of long-standing disease.<sup>1</sup>

Our cases illustrate the difficulties encountered in arriving at a diagnosis of paroxysmal nocturnal hemoglobinuria. Symptoms were present in each of the patients for years before the correct cause was appreciated. The most frequent error (cases 1, 2 and 3) was confusion with chronic renal disease. The reasons for this are evident. Hemoglobinuria is responsible for a positive protein test in the urine, and also results in the formation of casts. Red cells are frequently encountered in the urine, possibly due to small thromboses in the kidneys, thrombocytopenia or glomerular damage by hemoglobin. The simplest method of distinguishing hemoglobinuria from hematuria is to centrifuge the urine. If hemoglobinuria is present, the supernatant will remain discolored. Although hemoglobin is the pigment which most commonly produces this type of urinary discoloration, myoglobin and porphyrins must be excluded. The urinary porphyrins in porphyria fluoresce under ultraviolet light, and in acute porphyria there may be a positive test for porphobilinogen. They do not give a positive benzidine



test, and do not discolor the plasma. Myoglobin reacts to benzidine as does hemoglobin. However, because of its low molecular weight and low renal threshold it appears in the urine without a significant increase in its plasma level. Hemoglobin, on the other hand, has a relatively high renal threshold, and will not appear in the urine unless the plasma level is great enough to be grossly visible. Final distinction between hemoglobin and myoglobin must be made by spectrographic analysis. The spectral absorptions differ to only a slight degree, and careful technic is necessary.<sup>7</sup>

Once the diagnosis of hemoglobinuria is established, the various causes of this condition must be considered. The most common cause of intravascular hemolysis is a transfusion reaction from incompatible blood. Acute intravascular hemolysis may also be the result of poisons, such as phenylhydrazine, or severe infections with hemolytic microorganisms such as *Clostridium welchii*. It is also found in favism and in blackwater fever. In general, the history, the associated symptoms and the sudden violent clinical picture will prevent confusion of these diseases with PNH. A cause of recurrent hemoglobin in the urine is march hemoglobinuria, but this can usually be distinguished by its characteristic occurrence only after severe exercise. Occasionally hemoglobinuria will occur in the acquired hemolytic anemias, a group of diseases in which "antibodies" against the patient's own red cells appear to be formed.<sup>8</sup> These "antibodies" may be agglutinins or, less commonly, hemolysins. Acquired hemolytic anemia may be secondary to an underlying disease, such as chronic lymphocytic leukemia or disseminated lupus erythematosus, or no primary underlying disease may be detected. Usually evidence of "antibody" formation can be found by appropriate tests. In many cases the Coombs' test is positive, or free "antibodies" can be detected in the patient's serum.<sup>8</sup> A rare type of hemolysin against red cells is found in paroxysmal cold hemoglobinuria, a condition which is most frequently found in association with congenital syphilis. This hemolysin attaches itself to the red cell in the cold, and when the serum is warmed again, complement hemolyzes the cells. This sequence of events can be reproduced in the test tube (the Donath-Landsteiner test). Clinically, the condition is characterized by episodes of intravascular hemolysis with hemoglobinuria on exposure to cold.

In paroxysmal nocturnal hemoglobinuria, as indicated above, it is the red cells which are defective and which are destroyed by their own or normal serum, particularly at a slightly acid pH. The Ham test is based on the incubation of suspected cells in acidified serum.<sup>9</sup> Although the spherocytes of congenital or acquired origin may be similarly hemolyzed, heated plasma retains its lytic activity against spherocytes, but loses its ability to destroy PNH cells. Moreover, PNH serum will have no effect on normal cells, whereas the serum of acquired hemolytic anemia will frequently agglutinate or, less commonly, hemolyze them. Thus, the Ham test should always be controlled as follows:

	PNH	Hereditary Spherocytosis	Acquired Hemolytic Anemia
Patient's cells plus acidified normal serum	Hemolysis	Hemolysis	Hemolysis
Patient's cells plus heated acidified normal serum	No hemolysis	Hemolysis	Hemolysis
Patient's serum plus normal cells	No hemolysis	No hemolysis	Agglutination or hemolysis possible

Even with these precautions there are four possible causes of a false-negative Ham test, according to Crosby:<sup>8</sup> 1. Failure to keep the tubes of serum stoppered may lead to loss of carbon dioxide, with a resulting rise in pH. 2. The use of plasma rather than serum can cause trouble in that the anticoagulant prevents formation of thrombin with its ability to potentiate PNH hemolysis. 3. Similarly, blood collected in siliconed equipment may permit so little thrombin formation as to interfere with the test. 4. If the patient has received multiple transfusions, he may have so few of his own cells left that the relatively insensitive Ham test cannot detect them. Another difficulty with the Ham test is illustrated by our case 4, in which an acquired hemolytic anemia was superimposed on the paroxysmal nocturnal hemoglobinuria. In such a case the results of the Ham test may suggest an acquired hemolytic anemia.

The possible confusion resulting from the Ham test makes the Crosby test preferable. In the Crosby test, the accelerating effect of thrombin on the PNH hemolytic system is easily demonstrated by comparing grossly the degree of hemolysis in two tubes containing the patient's red cells and normal serum, thrombin having been added to one of these tubes. Present evidence indicates that this test is uniformly positive in PNH and is positive in no other disease.

In the absence of obvious hemoglobinuria, PNH may be mistaken for other conditions with a chronic anemia. Because of the pancytopenia, aplastic and hypersplenic anemias may be simulated. This is particularly the case during periods of aregenerative crisis, when the marrow may become temporarily inactive. Case 4 is illustrative of this problem. In this patient the platelets were sufficiently depressed to result in gross hemorrhage. This degree of thrombocytopenia is unusual in PNH, but a similar case has been reported by Gouttas.<sup>10</sup> Patients with PNH will spontaneously recover from the aregenerative phase. Reticulocytosis will occur, normoblastic hyperplasia will be seen in the marrow, and the hemoglobinuria may again become evident.

Hypersplenism is suggested by the clinical picture of pancytopenia, splenomegaly and a proliferative marrow. The differential diagnosis may not be easy, but in the absence of an obvious cause for splenomegaly the tests which indicate PNH should be performed. Differentiation from

hypersplenism is especially important, for PNH patients generally withstand splenectomy poorly.<sup>11</sup>

To date, bishydroxycoumarin is the only treatment of PNH which has shown promise. Although there is evidence that this drug may reduce the rate of hemolysis, the one definite indication for bishydroxycoumarin in PNH, according to Crosby, is the development of spontaneous thromboses. Our case 1 emphasizes the hazards of thrombosis in this condition. It is possible that earlier and more vigorous administration of bishydroxycoumarin might have prevented the fatality. The other three cases illustrate the difficulty encountered in trying to evaluate the effects of therapy on the rate of hemolysis. The course of PNH is variable. It is punctuated by crises which may be the results of infections, transfusion reactions, trauma, many drugs, and even severe emotional states. Following destruction of the most susceptible red cells, temporary amelioration of the hemolytic process is a rule. It is apparent from a perusal of our records that spontaneous improvement occurred in the absence of bishydroxycoumarin on many occasions, and that a hemolytic crisis may occur despite adequate dicumarolization (case 2, thirteenth admission). Nonetheless, depression of the rate of hemolysis occurring at the time of attainment of prothrombin levels below 30% of normal happened too many times to consider coincidence a likely explanation. Case 3 demonstrated gross clearing of the urine coincident with the attainment of adequate prothrombin reduction. Hemolysis recurred when the prothrombin concentration rose to 40% and disappeared again when it was lowered to 10%. Although ethyl biscoumacetate was substituted for bishydroxycoumarin shortly after this, it does not seem that there should be any difference in the results with the two drugs. Case 4 showed definite lowering of the plasma hemoglobin levels and cessation of gross hemoglobinuria with adequate dicumarolization. Better control was prevented by the development of a complicating hemolysin. Case 2 in his eleventh admission improved spontaneously before bishydroxycoumarin was started. He was discharged without therapy and returned in a hemolytic crisis three months later. Bishydroxycoumarin was reinstituted, and clear urine reappeared by the third day. However, he returned again two months after this with hemoglobinuria despite adequate prothrombin times. It is tempting to speculate that his heavy alcohol intake during this period precipitated a crisis which overcame the effect of bishydroxycoumarin. At any rate, gross hemoglobinuria ceased quickly once he was in the hospital, and he remained well until bishydroxycoumarin was discontinued, when a hemolytic crisis recurred. This case illustrates some of the difficulties in using bishydroxycoumarin. Crosby has pointed out that since bishydroxycoumarin results in the sparing of the red cells most susceptible to hemolysis, sudden destruction of these red cells occurs when the bishydroxycoumarin is stopped. This seems borne out by our experience.

Although bishydroxycoumarin seems to decrease the rate of hemolysis in PNH, its effect may occasionally be overcome. It is evident from our results that, if it is used, the prothrombin concentration must be kept below 30% by the Quick method. Even temporary loss of control may result in massive destruction of red cells. Bishydroxycoumarin seems indicated only for those cases of PNH whose rate of hemolysis is so rapid or whose crises are so frequent as to require frequent hospital admissions and transfusions. Once started, it should be continued for a prolonged period.

#### SUMMARY

1. Four new cases of paroxysmal nocturnal hemoglobinuria are presented.
2. The most common mistakes in diagnosis are indicated, and an approach to the differential diagnosis is outlined.
3. The effect of bishydroxycoumarin is described. It does not control the disease completely, but it is indicated when spontaneous thrombosis is occurring, and when the hemolytic process is so severe as to require frequent hospital admissions and transfusions.

#### SUMMARY IN INTERLINGUA

Quatro nove casos de hemoglobinuria nocturne paroxysmal servi a demonstrar le difficultate de arrivar a iste diagnose. Nos discute le diagnose differential e presenta un evaluation del utilitate del tests de Ham e de Crosby. Le presentation de nostre casos etiam offere le opportunitate de evaluar le effecto de bis-hydroxycoumarina super le grado del hemolyse.

Caso 1 esseva un masculo de 66 annos de etate. Durante tres annos su condition habeva essite misdiagnosticate como chronic morbo renal. Occurreva al hospital repetitive crises hemolytic e minor thromboses cerebral. Illos non esseva arrestate per le marcate alkalisation del patiente. Un curso de bis-hydroxycoumarina esseva initiate, sed le concentration de prothrombina non esseva correctemente controlate, e un serie de thromboses sequeva con exito mortal.

Caso 2 esseva un masculo de 49 annos de etate. Ille habeva un historia quadrienne de symptomas ascribite a alcoholismo chronic e morbo renal. Le tractamento a bis-hydroxycoumarina produceva effectos pauco uniforme. Un crise hemolytic se resolveva in synchronicitate con le administration del droga, sed a un altere occasion un sever crise occorreva durante un extravagantia alcoholic ben que le tempores de prothrombina esseva adequatemente controlate. Plus tarde le patiente interrompeva su curso de bis-hydroxycoumarina, e un crise hemolytic sequeva immediatemente. Le non-cooperativitate del patiente rendeva impracticabile le projicite therapia a bis-hydroxycoumarina.

Caso 3 esseva un masculo de 54 annos de etate. Su episodios recurrence durante quatro annos. Al initio illos esseva diagnosticate como infectiones renal. Plus tarde un alte titro de cryoagglutininis suggereva le diagnose de acquirite anemia hemolytic. Le symptomas deveniva de plus in plus sever, persistente, e typic de hemoglobinuria nocturne paroxysmal. Un curso de bis-hydroxycoumarina esseva comenciate. Le color del urina deveniva normal. Le concentration de prothrombina descendeva a infra 30 pro cento del norma. Hemoglobinuria reapareva un vice quando le concentration de prothrombina ascendeva a 40 pro cento; illo re-dispareva quando prolongate tempores de prothrombina esseva producite per medio de ethyl-bis-coumacetato.

Caso 4 eseva un masculo de 41 annos de etate. Ille habeva un historia decenne de symptomatias que eseva originalmente ascribite a anemia aplastic. Plus tarde un hemolysina appareva in le plasma del patiente. Isto effectuava confuse resultados de un test de Ham, sed le resultado de un test de Crosby eseva positive e confirmava le diagnose de hemoglobinuria nocturne paroxysmal. In iste caso un definite melioration eseva causate per bis-hydroxycoumarina, sed plure recidivas occorreva quando nos permitteva un augmentation del concentration de prothrombina. Le urina re-deveniva clar quando le concentrations de prothrombina eseva re-abassate.

A causa de cambiamentos spontaneos in le severitate de hemoglobinuria nocturne paroxysmal, il non es possibile derivar conclusiones final ab le supra-presentate datos. Tamen, bis-hydroxycoumarina in doses capace a reducer le concentrations de prothrombina a infra 30 pro cento del norma pareva associate con un retardation del hemolyse in tante ocasiones que il eseva impossibile considerar ille association como accidental. Bis-hydroxycoumarina es indicate quandocunque le patiente exhibi signos del thromboses que es si frequente in iste morbo. On etiam deberea essayar iste droga quando le processo hemolytic es si sever que frequente hospitalisationes e transfusiones de sanguine es requirite.

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## THE CLINICAL SPECTRUM OF POSTPARTUM ACUTE RENAL INSUFFICIENCY \*

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THE literature on acute renal insufficiency which has accumulated since Bywaters' description of the crush syndrome<sup>1</sup> documents the general agreement that now exists on several aspects of the problem. These include the identification of agents or circumstances which precipitate acute renal failure,<sup>2</sup> the gross and microscopic renal pathology,<sup>3,4</sup> broad outlines of the clinical course,<sup>5</sup> renal function during the diuretic phase,<sup>4,5,6,7,8</sup> and rational principles of management.<sup>9,10</sup> Terminology has likewise evolved from earlier, anatomically oriented forms (e.g., lower nephron nephrosis) to the currently popular "acute renal insufficiency" or "acute renal failure," terms somewhat more consonant with the modern clinical approach to the disease. In spite of this large investigative and clinical experience, many areas remain controversial or poorly defined. Prominent among these are the technics of management, as distinct from the principles of management, the value of dialyzing procedures, the mortality rate of the disease itself, and the extreme variability of the clinical course both in rate of progression and in types of complications encountered. This clinical variability may account for much of the existing divergence of opinion.

These considerations are entirely pertinent to obstetric patients who develop acute renal insufficiency. Although the incidence of postpartum oliguria may be relatively low among obstetric complications, the percentage of obstetric patients who appear in large series of acute renal insufficiency from all causes is quite striking. In our own institution, over a five year period, obstetric patients comprised over 30% of those patients with acute renal insufficiency whose clinical course warranted hemodialysis. The obstetric literature contains early references<sup>11</sup> to anuria in pregnancy, and more recent work,<sup>12,13,14</sup> has fully enumerated the particular circumstances likely to produce acute renal insufficiency. These include abruptio placentae, abortion, eclampsia and clostridial infection, as well as intravascular hemolysis and many other inciting agents not unique to the pregnant woman. It is probable that shock is a common denominator in many of these.

The purpose of the present paper is to present data and discussion relevant to some of the problems which have been mentioned, using for this purpose a series of 18 obstetric patients with acute renal insufficiency.

\* Received for publication June 18, 1955.

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## CLINICAL MATERIAL AND METHODS

The clinical material consisted of 18 adult females who developed acute renal insufficiency during their pregnancy or puerperium. They have been divided as follows:

*Group I:* Six patients whose oliguria persisted for from one to 10 days were managed conservatively. Basic therapy consisted of (a) water in daily amounts equal to the sum of all measured losses and 0.3 ml./kg./hr.; an additional 10% of this total was allowed for each degree of oral tempera-

TABLE 1  
Postpartum Acute Renal Insufficiency

Case	Age	Tri- mester	Precipitating Causes	Duration of Oli- guria (days)	Highest BUN	Highest K	Dialysis on Oliguric Day	Outcome
Group I								
1	30	3	Abruptio, transfusion re- action	1	39	5.1	None	Recovered
2	21	3	Stillbirth—8th month	3	185	5.4	None	Recovered
3	24	3	Gantrisin reaction	4	30	5.0	None	Recovered
4	33	1	Transfusion reaction	4	116	4.3	None	Recovered
5	29	3	Abruptio	6	161	6.9	None	Recovered
6	26	3	Transfusion reaction	10	337	6.6	None	Recovered
Mean	27			4.7	145	5.5		
Group II								
7	35	3	Abruptio	8	260	7.2	8th	Died after diuresis —infection
8	19	3	Placenta praevia	10	172	9.7	10th	Recovered
9	25	2	Quinine abortion	10	285	9.0	8th	Died—massive hemorrhages
10	36	2	Induced abortion	11	223	7.0	9th	Recovered
11	40	1	Ruptured ectopic	13	155	7.0	11th	Recovered
12	24	1	Quinine abortion	18	341	8.5	11th	Recovered
13	30	3	Transfusion reaction	19	116	9.5	18th	Died after diuresis
14	29	3	Abruptio, preeclampsia	19	303	8.1	6th and 13th	Died after diuresis
15	24	3	Abruptio, preeclampsia	23	199	8.1	8th and 18th	Recovered
16	32	2	Abruptio	32	184	8.5	6th, 17th, and 22nd	Died
Mean	29			16.3	223	8.3		
Group III								
17	39	3	Eclampsia	2	112	8.0		Died
18	35	2	Malignant hypertension	4	169	6.3		Died

ture above 99° F.; (b) glucose, 100 gm. or more per day; (c) supportive measures where indicated.

*Group II:* Ten patients with oliguria ranging from eight to 32 days received 14 dialyses on a modified Kolff artificial kidney. Basic therapy was identical to that of Group I.

*Group III:* Two patients died within four days of onset with an overwhelming complication such as cardiac arrest, shock and gastric hemorrhage. These patients were transferred to our hospital shortly before their death and were not "managed" in any real sense.

*Methods:* All dialyses were carried out with a modified Kolff artificial kidney.<sup>15</sup>

Serum urea nitrogen was measured by the method of Gentzkow;<sup>16</sup> sodium and potassium were measured by a lithium internal standard flame photometer.

*Definitions:* Acute renal insufficiency: A clinical syndrome characterized in part by a 24 hour urine volume of less than 400 ml. in the absence of hypotension or mechanical obstruction. The term "oliguria" will refer to such a urine volume. The term "diuresis" will refer to a 24 hour urine volume of more than 500 ml. for at least two consecutive days following a period of oliguria.

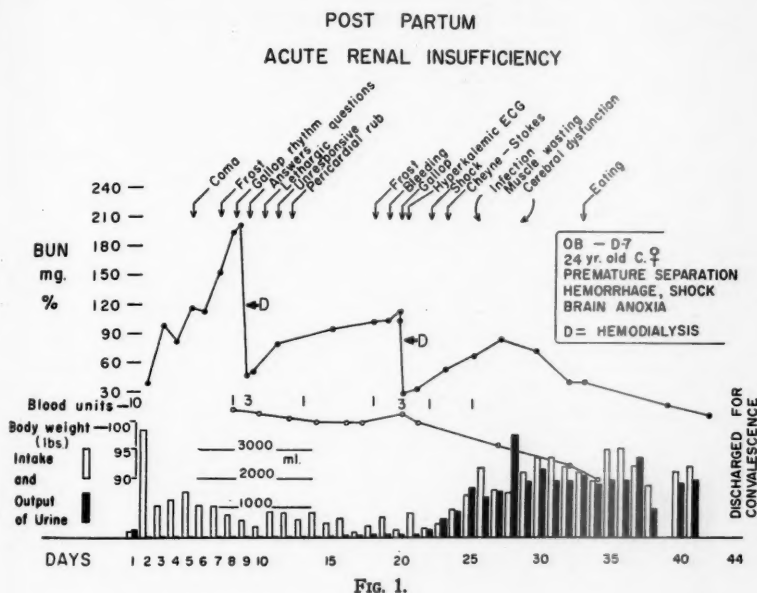
*Description of Data* (table 1): The pattern of inciting causes shows the expected relationship to trimester in that abortion occurs early in pregnancy, the abruptio placentae is late, and the transfusion reactions are distributed throughout. Case 3 is unusual in that she represents the first acute renal insufficiency following the use of Gantrisin seen in this institution.

Group I patients showed a mean duration of oliguria of four and seven tenths days and no mortality. Cases 1 and 3, the mildest in the series, were the only patients not referred from other hospitals, and illustrate the type of acute renal insufficiency which may go undiagnosed because of the brief duration of oliguria. The other three patients in this group, as well as the remaining 13 patients, were all referred and therefore represent a highly selected sample of acute renal insufficiency. Note the differences in serum urea nitrogen concentration in cases 3 and 4 in spite of the same duration of oliguria. Such differences must be due largely to variations in the magnitudes of the catabolic response to the initial injury and complications. Case 6, who was admitted in coma on her tenth oliguric day and began a diuresis on the next day, provided an example of the apparently terminal patient with acute renal insufficiency who spontaneously recovers. This happy outcome cannot, unfortunately, be assumed or predicted with any frequency. With the exception of case 6, conservative management was entirely adequate in this group and the question of dialysis did not arise. It is of interest that even with so mild a course three patients exhibited complications in the convalescent period, including persistent anemia (case 4), diminished endogenous creatinine clearance (case 3), and impaired tubular response to anti-diuretic hormone (case 5). These notwithstanding, Group I, in essence, exemplifies the type of patient referred to by those who have pointed out the adequacy of conservative management for "most cases" of acute renal insufficiency.

In Group II the clinical and laboratory features stand in sharp contrast to those of Group I. For example, the mean duration of oliguria was 16.3 days, more than three times that of Group I and twice that of a recently published series of postobstetric patients with acute renal insufficiency.<sup>17</sup> All of the 10 patients exhibited hyperkalemia at some point in their course;

the highest blood urea nitrogens recorded ranged from 116 to 341 mg. per 100 ml., and the over-all mortality was 50%.

There were 14 dialyses performed in this group, and it is of immediate interest that the patient who was dialyzed the greatest number of times (three) was also the patient surviving the longest oliguric period—32 days. She died on the thirty-second day with bilateral cortical necrosis of the kidneys, a lesion which has been considered almost universally fatal. Similarly, the two patients who were dialyzed twice each survived the next longest oliguric periods, 19 and 23 days. The latter patient recovered and the former died of a progressive uremic syndrome after diuresis began. Of the remain-



ing seven patients, each of whom was dialyzed once, there were three deaths—two in the diuretic period, of septicemia and peritoneal hemorrhage, and one on the tenth oliguric day of profuse hemorrhage from many sites. One of the patients dying in the diuretic phase also showed cortical necrosis at autopsy. Even this drastic renal lesion appears to be partially reparable. The indications for dialyses were usually (1) significant hyperkalemia which could not be controlled with carboxylic resin enemas; (2) a fulminating uremic syndrome, or (3) some combination of the two. The decision to dialyze did not depend on a given level of blood urea nitrogen or of serum K but was a flexible matter of clinical judgment. It is of course impossible

to "prove" that any given patient would not have survived without dialysis, but the following examples should satisfy even the most skeptical.

Case 15 was a 24 year old colored female with preeclampsia and premature separation of the placenta, whose course is depicted in figure 1. Within the first seven days, while on good conservative management, she had developed coma, uremic frost, gallop rhythm and hyperkalemia, 8.1 mEq./L. It is unreasonable to believe that she could have survived 23 days of oliguria without the benefit of hemodialysis.

Case 12 was a 24 year old colored female who induced an abortion with quinine. Her clinical course is shown in figure 2. In this patient the com-

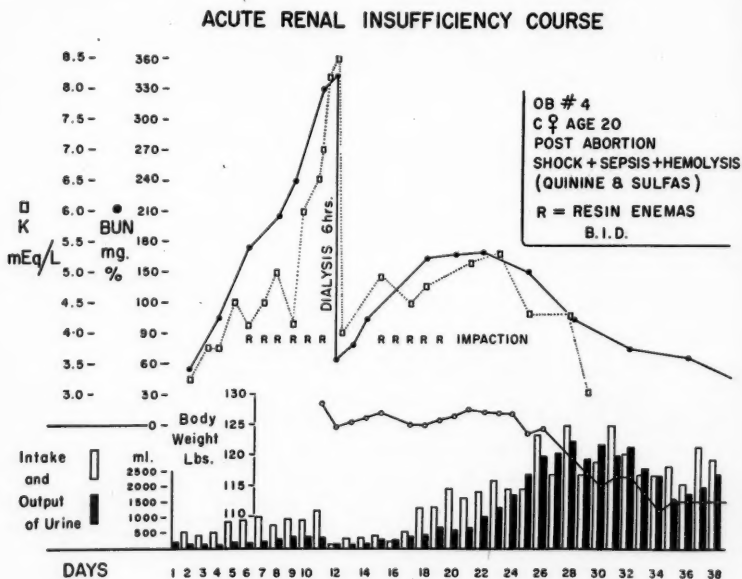


FIG. 2.

bination of postpartum involution and sepsis produced a rapidly progressive uremia, as shown by the average blood urea nitrogen increment of 23 mg. per 100 ml. per day for the first week, and 40 mg. per 100 ml. per day for the second week. Carboxylic resins controlled the level of serum potassium fairly well until even this agent was overwhelmed by the fury of the catabolic response and the patient required emergency transfer for dialysis. She had a temperature of 103° F., a leukocytosis of 38,500, and a pure culture of paracolon in the urine. Resins helped to control a postdialysis rise in potassium until a resin-impaction halted their use. The subsequent elevation of potassium was reversed by the rising urine flow.

Over-all chemical results of dialyses are shown in figure 3. Although we have had only limited experience with other forms, e.g., peritoneal dialysis, published reports<sup>18,19</sup> indicate a much lower extraction rate for potassium, urea and other substances than those obtained with the Kolff dialyzer. In the hands of an experienced team the procedure carries a negligible mortality and is accomplished in a six hour period.

### POST - PARTUM ACUTE RENAL INSUFFICIENCY

BLOOD CHEMISTRY  
BEFORE AND AFTER DIALYSIS

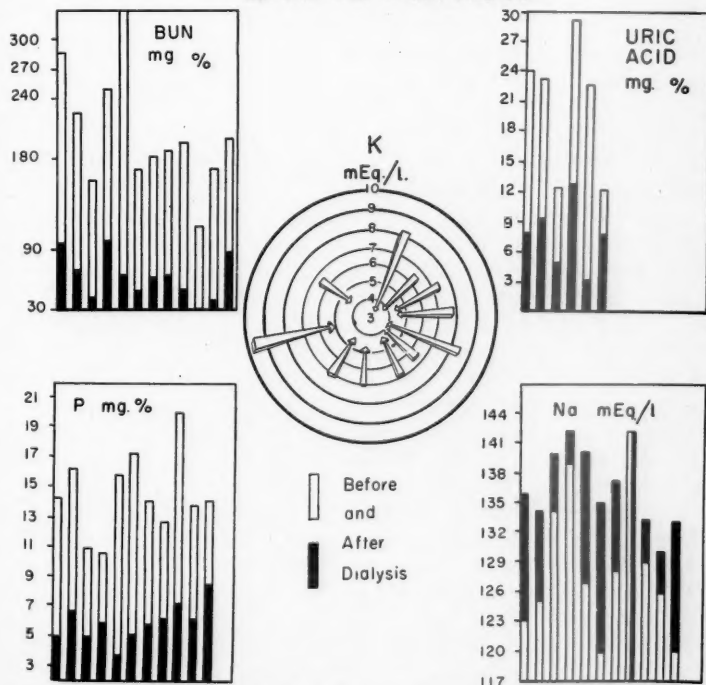


FIG. 3. The arrows represent change in serum potassium from the predialysis concentration in the outer circles to the final concentration in the inner circles.

Group II patients presented several other aspects which might profitably be examined; these included fluid balance, hematologic abnormalities and sepsis.

A. Fluid balance: All 10 patients transferred from other hospitals were overhydrated on admission; some were even edematous. Calculations were

made, when possible, of fluid intake prior to transfer: one patient had received 31 ml./kg./day, five had received more than 20 ml./kg./day, and two had received between 12 and 15 ml./kg./day. Optimal intake in an average patient would, by our standards, approximate 10 ml./kg./day. Once placed on such a program, all showed a one to six pound weight loss during the oliguric period. Under these circumstances, the over-all weight loss after diuresis might be used as an index of the degree of overhydration before transfer. It is significant that the patient with the 31 ml./kg./day intake lost the greatest amount of weight—40 pounds; the two patients with the intake of less than 15 ml./kg./day lost 16 to 17 pounds—below the group average but still far too much. The over-all range for the group was 12 to 40 pounds, with an average of 20 pounds fluid loss to "dry" weight.

There are two main reasons for the near universality of overhydration in these patients. The first is the delay between the occurrence of oliguria and its recognition. This may be as much as two or three days, during which the patient receives an excess of fluid. The second is the failure to appreciate how much water can be produced by the oxidation of foodstuffs or body tissue. This can amount to over 1 L. per day.<sup>20</sup> We have found the empirically derived figure of 0.2 to 0.3 ml./kg./hour a satisfactory approximation of the deficit between water output (sensible and insensible) and metabolically formed water. Our patients therefore received a daily amount of water equal to the sum of all measured losses and 0.3 ml./kg./hour. It is interesting that a recent publication<sup>21</sup> has advocated 500 ml. of water/day as a satisfactory amount, a figure fairly close to that which has been used in this five year series. It may be noted that water balance becomes even more critical in patients with a rapid catabolic rate and a correspondingly greater amount of endogenous water production. The commonly advised figure of 1,000 ml. plus measured losses, although too high, is tolerated to some degree only because of the relatively brief oliguria of many of the reported cases. Although pulmonary edema is said to be the leading cause of death in acute renal insufficiency, none of the deaths reported in the present series was due to problems of fluid balance.

*Hematologic Problems:* Anemia and leukocytosis were prominent. Average figures were 23 for the hematocrit and 38,000/mm.<sup>3</sup> for the white blood cell count. Additional, less well known phenomena were observed in the form of coagulation defects. Prothrombin times were abnormal in seven of eight patients studied with a mean value of 44%. Platelets were below 200,000 in five patients, in three of whom they were less than 100,000. Other abnormalities were noted in prothrombin consumption, bleeding time and fibrinogen level. These findings may occasionally become the main clinical problem, as illustrated by case 9: A 25 year old colored female was transferred to Georgetown University Hospital on the seventh day of oliguria following a septic, induced abortion which included the ingestion of



quinine tablets. Prothrombin time was 24%, platelets were 33,000/mm.<sup>3</sup> There were numerous ecchymoses over the skin, and the nasopharynx was covered with dried as well as fresh blood. The day after admission a serum potassium of 9.0 mEq./L. and a deteriorating clinical state prompted dialysis, which was uneventfully performed. By the next day she had lapsed into coma, with bleeding from mouth, vagina and rectum, and death ensued on the tenth oliguric day. At autopsy, all organs were diffusely hemorrhagic. The brain was not examined. It is interesting that somewhat similar abnormalities have been noted with eclampsia in the absence of uremia.<sup>22</sup>

*Sepsis:* All 10 patients became infected during the course of oliguria. Temperatures ranged from 100° to 104° F., and eight patients had temperatures of above 101° F. Leukocytosis ranged from 13,000 to 50,000. It should be pointed out that severe leukocytoses have also been seen in presumably noninfected, anuric subjects. Organisms were cultured from the urine in all patients. Paracolon and *Aerobacter aerogenes* were common. Granular motility cells ("glitter cells") were seen in all six urines examined. Despite the systemic signs of infection, only two patients had positive blood cultures, and one of these died in the diuretic period with a combined *Micrococcus pyogenes* and paracolon septicemia.

*Group III:* The two patients in this group illustrate some of the catastrophic events that may bring death within a few days. Case 18 is especially striking. At 8 a.m. on the day of transfer (patient's fourth oliguric day) the blood urea nitrogen was 175 mg. per 100 ml., and potassium was 5.3 mEq./L. Twelve hours later, at Georgetown, blood urea nitrogen was 216 mg. per 100 ml., potassium was 6 mEq. per liter, and the patient was in shock, with fulminating septicemia. She died within five hours, after all measures to combat the shock were unavailing. While it is doubtful that any measures might have saved this patient, the rapidity with which her uremia and hyperkalemia progressed makes it most unlikely that, in the absence of her fatal shock, conservative management would have seen her through the oliguric period.

#### DISCUSSION

The severity of any given case of acute renal insufficiency is a function not only of the duration of oliguria but also of the magnitude of the catabolic response to the precipitating injury and attendant circumstances. The obstetric patient is potentially the target of several vectors; all tending to increase the catabolic rate. These include involuting tissues, major surgery, sepsis and hemolysis. It is not surprising, therefore, that a series of post-obstetric patients with acute renal insufficiency should illustrate so well the continuous clinical spectrum which this disease presents, from the mildest forms to the fulminating and frequently fatal types. Inasmuch as renal function may be recovered at any point in the course of the disease, it becomes the primary therapeutic aim to preserve the life of an oliguric patient

for the longest possible time, each day increasing the statistical probability of a diuresis. In a series heavily weighted with the more severe forms of acute renal insufficiency, this frequently cannot be done without resort to extracorporeal hemodialysis. The ambivalence toward this procedure encountered in the literature<sup>23, 24</sup> and in conversations with colleagues is probably engendered by contact with cases similar to those in Group I. The series of postobstetric patients reported by Russell,<sup>17</sup> with a mean duration of oliguria of 8.3 days, furnishes additional examples of cases in whom conservative management is often entirely adequate. An entirely different situation exists in patients such as those in Group II, where the magnitude of catabolic response is much greater. It is in these patients that the value of extracorporeal dialysis is clearly shown. It is these patients who make particular attention to water balance, use of ion exchange resins and all the therapeutic stratagems so necessary.

The experience of the Renal Insufficiency Center in Korea<sup>25</sup> carries the situation one step further, and dramatically illustrates the possible effects when the catabolic vectors are extremely large. Here, oliguria was encountered with a background of extensive tissue destruction, sepsis, starvation and major surgery. Hyperkalemia was the rule even from the first oliguric day on. Under these circumstances, the use of a Kolff dialyzer lowered mortality from 80% to 53%. Many of these latter deaths were due to complications of the wounds themselves and do not represent failures of dialysis.

Therefore, even as the overenthusiastic claims for the "artificial kidney" must be critically examined in the light of the proved success of conservative management, so, too, the nihilistic appraisal of dialysis must be opposed on the basis of such experience as is illustrated in our Group II series of postpartum acute renal insufficiency. The goals of clinical investigation can never be achieved by examining a clinical spectrum through a filter of fixed wave length.

#### ACKNOWLEDGMENTS

We acknowledge the technical assistance of Gerald Rosenthal, Paula Pargellis, Phyllis Straub and Lois Liddle, and thank the many house officers and nurses who made these studies possible.

#### SUMMARIO IN INTERLINGUA

Un grande parte del controversia in re le characteristics clinic e le tractamento de insufficientia renal resulta del inadequate appreciation del complete spectrum clinic de iste morbo. Nos exemplifica iste considerationes a base de un serie de 18 patientes obsteric qui disveloppava acute insufficientia renal durante pregnantia o puerperio. Le serie esseva colligite ab un periodo de cinque annos. A nostre institution, casos obsteric representava plus que 30 pro cento del patientes con acute insufficientia renal in qui, in le curso del mentionate cinque annos, le curso clinic indicava le execution de hemodialyses. Le etiologias specific in ille casos esseva abruptiones del placenta, abortos, infectiones, e hemolyse intravascular. Le 18 casos del presente serie es dividite in tres grupos. Gruppo I includeva 6 patientes qui esseva tractate a bon successo per medios conservative. Nulle morte occurreva in iste gruppo. Le dura-

tion median del oliguria esseva 4,7 dies, con un dispersion ab 1 a 10 dies. Le therapia consisteva del restriction de aqua a 0,3 ml per kg per hora (plus reimpiacemento del perditas mesurate), de glucosa in quantitates de ultra 100 g per die, e de mesuras supportative. Gruppo II includeva 10 patientes qui habeva un duration median del oliguria de 16,3 dies, con un dispersion ab 8 a 32 dies. Omne patientes in iste gruppo habeva hyperkalemia e marcate azotemia. Le valor median de nitrogeno del urea sanguinee esseva 223 ml pro cento. In iste gruppo 14 dialyses esseva executate per medio del ren artificial de Kolff. Le mortalitate total esseva 50 pro cento. Un de iste patientes superviveva in despecto de 23 dies de oliguria. Illa recipeva duo dialyses. Gruppo III consisteva de duo patientes qui moriva intra quatro dies post le declaration del morbo que esseva accompagnate de complicationes radical, i.e., arresto cardiac, choc, e hemorrhagia gastric. Le principal indicationes pro le dialyses esseva (1) grados significative de hyperkalemia, non subjugabile per resinas, (2) un fulminante syndrome uremic, e (3) un combination de ambes. Le arbitro final esseva le iudicamento clinic. Le complicationes principal esseva problemas del balancia de fluido, anormalitates hematologic, e infectiones. Omne le patientes qui arrivava ab altere hospitales esseva hyperhydratate. Le perdita de peso in diuresis variava inter 5,5 e 18 kg. Le perdita median esseva 9 kg. Nos presenta un analyse del rationes pro le hyperhydration. Le anormalitates hematologic includeva anemia, leucocytosis, e complexe defectos del mecanismo coagulative que a vices constitueva major problemas clinic e deveniva le causa de morte. Omne le patientes del Gruppo II deveniva inficite durante le curso del oliguria. Paracolobactros e *Aerobacter aerogenes* esseva le organismos le plus frequentemente incontrate in le urina. Septicemias a staphylococcos e a paracolobactros esseva observate.

Le discussion se concentra super le necessitate de considerar le problema de acute insufficientia renal non solamente ab le puncto de vista del duration del oliguria sed etiam ab le puncto de vista del magnitudine del responsa catabolic al lesion precipitante. Le patiente obstetric es exponite al action de factores catabolic que include histoinvolution, major interventiones chirurgic, sepsis, e hemolyse. Patientes obstetric exemplifica consequentemente le spectrum clinic de acute insufficientia renal, ab le plus leve formas usque al typo le plus fulminante que es frequentemente mortal. Un grande portion del controversia in le litteratura resulta del absentia de iste perspectiva. Si, de un latere, il es necessari subjicer le hyperenthusiastic descriptions del efficacia del ren artificial a un examine critic in le lumine del successos obtenite per tractamentos conservative, il es, del altere latere, equalmente necessari opponer se al critica nihilistic de omne forma de hemodialyse, super le base de experientias accumulate in casos de oliguria a longe durantia o de character fulminante. Le objectivos del investigation clinic non es attingibile si on reguarda le spectrum clinic a transverso un filtro de fixe longor de unda.

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## THE SPECTER OF MALNUTRITION IN CHRONIC ILLNESS \*

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Two major nutritional disturbances are encountered among chronically ill patients. These are malnutrition, or nutritional deficiency, and obesity, or overweight. In a recent study of 431 patients at the Cuyahoga County Nursing Home,<sup>5</sup> nutritional disturbances were present in 187 patients (43%). Of these, 142 patients suffered from malnutrition and 45 were obese. In other words, approximately one out of every three patients admitted to the Home had undernutrition, and one out of every 10 carried a burden of obesity. It is noteworthy that advanced starvation was the *sole disability* in nine patients.

In the present paper 138 cases of undernutrition from this series of 431 chronically ill patients are reviewed in detail. The data include sex and color distribution, the clinical criteria of malnutrition, the incidence of nutritional deficiencies in the various chronic diseases found in this institution, and the principal causes underlying the development of malnutrition and its treatment.

The caloric adequacy of an individual's diet must be reflected ultimately by the body mass. Thus, in the adult, if the body weight is constant, it follows that the diet is calorically balanced with the patient's current activity and metabolic level. Deviations of weight are accounted for, in part, by variation in the amount of body fat. The deposits of fat in the subcutaneous tissues and the deeper depots are strikingly depleted in the victims of prolonged underweight. Therefore, a departure from "normal" body weight is, *per se*, a measure of the habitual caloric deficiency of the diet. Obviously, then, a change in body weight depicts accurately the caloric balance and indicates roughly the need of increased intake to correct this. In the long run, therefore, in the absence of edema the body weight is the best indication of the caloric adequacy of a diet. The scale should be used regularly for both ambulatory and bed-confined patients.

As the first step, the gross body weight is compared with some standard. Unfortunately, the weight tables in most textbooks are merely based upon the arithmetical averages of the body weight of apparently "normal" persons of specified age, sex and height. Actually, these tables are a cross-section of the national trends and not necessarily "ideal" weights. A table of ideal weights for men and women age 25 and over, prepared by the statisticians of the Metropolitan Life Insurance Company, gives weights for individuals "as ordinarily dressed, with shoes" for each inch of height. With con-

\* Received for publication May 4, 1955.

sideration for such variations as the length of the trunk in relation to total height, each value is given as a range rather than as a single reading. These tables also recognize the fact that a person of "small" frame weighs less than one of "medium" or "heavy" frame of the same height, age and sex. According to these data the ideal weight is lower than the averages given in other tables. We believe the weights recommended in these tables provide a realistic appraisal of a patient's nutritional status.

#### THE CLINICAL CRITERIA OF MALNUTRITION

*Weight Loss:* When the caloric intake is inadequate to meet the energy demands the body cannibalizes its own tissues to overcome the deficiency. This results in weight loss. Weight losses during medical illnesses and after almost any surgical procedure are so common that physicians practically accept this as a normal occurrence. Thus weight loss, together with other evidence of tissue wasting, is a valuable criterion of caloric deficiency. However, this method of appraisal can be misleading unless other factors which influence weight are carefully evaluated. For example, actual tissue loss may be masked by increases in extracellular tissue fluid (edema). Conversely, the first sign of improvement in a patient with undernutrition may be a rapid weight loss as the result of fluid excretion.

*Clinical Appearance:* In the absence of reliable laboratory measures of caloric deficiency, one comes to rely upon the clinical evaluation of a patient's physical appearance, muscular development and subcutaneous fat deposits. There is no reason to doubt the usefulness and reliability of such data. The relative fat content of the body should reflect the inadequacy of the previous diet.

*Dietary History:* The initial step in evaluating a patient's nutritional status is to obtain a dietary history. Important clues of a previously inadequate diet may be detected in this manner and thus lead to the recognition of a nutritional deficiency. One may uncover symptoms attributable to malnutrition, and perhaps evidence pointing to some etiologic basis for the malnutrition, in the general medical history.

#### OUR RESULTS

*Incidence, Sex, Age:* The 138 cases with undernutrition which serve as a nucleus for this study represent 32% of 431 chronically disabled patients who were carefully reviewed for this defect. There are 89 males and 49 females, a ratio of 9:5, as compared with a population ratio of two males to one female in the Nursing Home. The sex difference is not statistically significant. There are 115 white and 23 Negro patients with malnutrition. The 5:1 ratio of white to Negro individuals in this series exceeds slightly the ratio of the control population (4:1) in this institution.

While the greatest number of cases occur in the 60-64 year group and the immediately adjacent 55-59 and 65-69 year groups, malnutrition cases



occur in every age group from 20 to 99 years. Actually, the age distribution curve of the malnutrition cases simply reflects the age of the population in the Nursing Home. One is forced to conclude from these data that, contrary to a great deal of recent opinion, undernutrition has no special predilection for the elderly patient, and the high incidence of this condition in the older age groups reported from comparable institutions is explainable by the predominance of the older aged patients therein.

**Weight Loss:** The patients in this series experienced weight losses varying from six to 85 pounds. The average weight loss per patient is 40.5 pounds, a figure which emphasizes clearly the magnitude of the problem.

**General Appearance:** In table 1 are listed the most common descriptions of the nutritional status of this group of undernourished patients as gleaned from their histories. It seems as though the examining physicians were groping for suitable terminology to picture these individuals adequately. Some simply used terms like "severe, extreme or tremendous emaciation." Others emphasized the "senile appearance" of these patients, estimating their ages at from 10 to 30 years beyond their chronologic ages, or merely stated

TABLE 1  
Description of Nutritional State

	No. Cases
Poorly or very poorly nourished appearance	48
Emaciated, wasted or cachectic	35
Thin or extremely thin	31
Evidence of recent or chronic weight loss	18
Chronically or very chronically ill in appearance	14
Poorly developed	13
Senile in appearance	9

that they appeared to be 80 to 90 years of age. A few patients actually were described as appearing younger than their stated age.

Some of the phrases applied by the examining physicians to these patients are listed as follows: "A starved patient," "human skeleton," "only skin and bones," "bag of bones held together by a sheet of dry parchment without padding," "skeleton covered with skin," "marked starvation," "last stage of starvation," "ghostlike," "a starved prisoner of war," "fugitive from a concentration camp," etc.

Other points emphasized occasionally in some patients are prominent or sunken eyeballs, sunken cheeks, hypersensitivity to pain, prominence of the bony parts and dehydration.

#### PHYSICAL CHARACTERISTICS OF PATIENTS WITH UNDERNUTRITION

**Hepatomegaly:** We found 89 patients with hepatomegaly in 138 cases of undernutrition. The livers, measured vertically by percussion, varied in size from 8.0 cm. to 16.0 cm., with an average of 10.1 cm. With our method of percussion the upper limit for the normal male is 7.5 cm., and for the female, 7.0 cm. There were three cases with hepatomegaly in whom

congestive heart failure was clearly the underlying cause, and in two others the enlargement was attributed to infectious hepatitis and obesity (with alcoholism), respectively. There remain 85 patients in whom malnutrition is the only possible ascribable cause of the liver enlargement.

In addition to the 89 patients with definite hepatomegaly, there were other cases whose liver measurements were at the upper limits of normal and, though borderline cases, they were excluded. Hepatomegaly could not be detected in a few patients who gave a history of poor protein intake. On the other hand, occasionally the finding of hepatomegaly led us to review the dietary history more thoroughly and was instrumental in enabling us to establish the diagnosis of malnutrition. In a few cases with hepatomegaly there was slight tenderness over the liver area, but the malnutrition liver is not ordinarily tender.

Palpation of the liver as a sign of hepatomegaly has not been reliable in our hands. A palpable liver, one to four fingerbreadths below the costal margin, was present in 11 of the 138 undernourished patients reviewed herein. Of these 11 palpable livers, three proved to be normal in size by percussion. This inconsistency is probably explained by the fact that in some cases the liver normally is situated below the costal margin and is readily palpable. On the other hand, sometimes the liver is situated well above the costal margin and, though enlarged, may not be palpable. The latter is frequently detectable by percussion.

In cases of undernutrition the liver is probably enlarged as a result of fatty changes associated with a lipotropic deficiency accompanying an inadequate food intake. With the institution of an adequate diet the liver usually reverts to normal size in two and one-half to three months, as in 29 of our patients (table 3), good evidence that the enlargement had been due to malnutrition. Sometimes the liver appears to return to normal size even without a weight gain, showing that qualitative improvement in the diet may also play a rôle. For example, one patient with hepatomegaly and epigastric distress steadfastly refused to eat meat, however, he ate two raw eggs every morning, which was sufficient to reverse the hepatomegaly.

Although the liver apparently undergoes profound physiologic changes in severely undernourished patients, only rarely is it a cause of death. One patient developed acute hepatitis and died. At autopsy the livers of patients with undernutrition are not usually excessive in weight. In our opinion, however, this does not exclude the possibility of liver swelling and associated fatty changes as a basis for the hepatomegaly which appears to be present clinically.

*Dental Defects:* The frequency of dental defects among these patients with undernutrition is emphatically illustrated in this study. Approximately one third of these patients (40 cases) had edentia and a great many (25 cases) had carious teeth. The patients who had dentures are not tabulated, and presumably they were able to masticate their food satisfactorily. The importance of edentia as a factor in poor food intake is obvious. Our

Staff dentist makes an effort to provide dentures for every patient. In some cases snags, broken roots and carious teeth must be extracted before dentures can be supplied. Unfortunately, some patients are not suitable candidates for dentures, and others refuse to wear them or misplace them. Undoubtedly, patients supplied with dentures masticate their food better. For patients who retain their own teeth a complete dental service is maintained at the Nursing Home for prophylaxis, fillings, etc.

*Pallor:* Pallor was noted in 37 patients, usually of moderate degree. Marked pallor was present in only three cases. The average pallid patient has a pasty, washed-out appearance. The pallor is not ordinarily associated with anemia and probably is an indication more of the state of health of the skin per se than of anemia.

*Weakness:* Weakness, subjective and objective, was a prominent complaint in 37 cases. The onset of weakness is so surreptitious that it is apt to be overlooked. It is noticeable, first, as fatigue, as a result of which these individuals are likely to leave their employment and, in the case of

TABLE 2  
Physical Characteristics of Undernutrition

	No. Cases
Hepatomegaly (see table 3)	85
Dental defects	—
Pallor	37
Weakness	37
Decubitus ulcers	37
Muscle atrophy	34
Skin changes	—
Mucous membrane abnormalities	30
Abnormal mental state	24
Edema	18
Diarrhea	7

housewives, to curtail the amount of housework they perform. The weakness is usually noted initially by other persons and is disproportionate to the patient's age. In later stages of undernutrition these patients refuse to go to the dining table for meals. Eventually they are subject to frequent falls, become bed-ridden and in some instances become too weak even to sit up.

*Decubitus Ulcers:* In the 138 patients with malnutrition there were 37 cases with decubitus ulcers, an incidence of 30% (table 2). The decubiti were located in the usual areas of predilection. In more than one-half the cases with this lesion the ulcer was located over the sacrum, and in about one fourth over the greater trochanter. Much less common situations were the buttocks and heels. Very infrequently, decubitus lesions develop over the legs, feet, abdomen and shoulders. The decubiti were generalized in only one patient. With the exception of five cases secondary infection and cellulitis usually were not present and fever was equally uncommon in these patients with decubitus ulcers. In fact, the infrequency of fever holds true equally as well for the entire group of malnutrition cases.

Upon reviewing the principal diseases with which these patients were disabled, other than malnutrition, for a possible clue to the high incidence of decubitus lesions, one finds a typical cross-section of all the disabilities which are found in a hospital for chronic diseases. Possibly the incidence of decubiti is disproportionately higher in our cases of malnutrition associated with paraplegia, fracture and multiple sclerosis. Nevertheless, the high frequency of decubitus ulcers in patients in whom starvation and poor food intake are the principal disability is most noteworthy. In fact, the incidence of decubiti in this group is so great that one is forced to conclude that the malnutrition per se is an important, if not actually the underlying, cause of the decubitus. Be this as it may, the 30% incidence of decubiti in these malnutrition cases is far in excess of their incidence in this institution as a whole.

*Muscle Atrophy:* Muscle atrophy was a prominent finding in 34 patients of this series with undernutrition. Atrophy is noticeable particularly in the interossei and the muscles of the forearm, thorax, leg and thigh. Depressions are prominent in the supraclavicular and infraclavicular spaces, and the abdominal muscles become flabby. In far advanced cases of generalized atrophy the muscles are practically extinct and only skin and bones are visible.

*Skin Changes:* Skin changes are a very prominent finding in cases of undernutrition. The skin is rough, dry and scaly, becoming parchment-like and leathery in advanced cases. Frequently the skin is wrinkled and hangs loosely, as in the arm, for example. The abdominal wall is very flaccid in some patients. The loss of subcutaneous fat is best illustrated in the female breast, which either becomes a pendulous tag of skin or actually atrophies to the size of the male breast. Sunken eyes and cheeks are further examples of fat loss in the subcutaneous tissues. Diminished turgor, with loss of elasticity, shiny appearance and, finally, atrophy, is observed in some cases.

It is noteworthy, in a large series of severe malnutrition cases such as this, that the pigment changes of pellagra were observed in only two patients. A very interesting condition, noted in 12 patients, is the presence of ecchymotic spots on the dorsum of the hands and forearms.

*Mucous Membrane Lesions* (30 cases, table 2): Mucous membrane changes in these cases of undernutrition were found most frequently on the tongue. Changes such as redness of the tip, coating or furrows may be minimal. In more severe cases, however, one finds definite glossitis, that is, a red, raw, shiny tongue which may be smooth and atrophic. Just as pellagrous skin changes are uncommon, evidence of true vitamin deficiencies was likewise rare in the mucous membranes. For example, fissures at the angle of the mouth (perlèche) were noted in but two cases.

*Psychiatric Aberrations* (table 2): Psychiatric disturbances were present in 24 cases in this series of malnourished patients. The type of dis-

turbance varied from simple moodiness or emotional instability to the other extreme, viz., true psychosis. Probably the most common mental disturbance which we encounter is confusion or disorientation. The mental deterioration progressed to true dementia in five cases. Other mental disturbances, encountered less infrequently, are incoherence, restlessness, noise, melancholia and depression.

**Edema:** Eighteen of the 138 patients with undernutrition presented edema (table 2). In 11 cases the edema was confined to the feet and ankles, and in seven extended upward to involve the legs. Ascites, scrotal edema and periorbital edema were each present in one case. The edema in these cases varied in severity from 1 plus to 4 plus. Fluid accumulation does not appear to be an important element in this form of undernutrition.

**Diarrhea:** Although the actual incidence of chronic diarrhea among the 138 patients with severe malnutrition is small (seven cases), still, when diarrhea occurs, we have the feeling that there is a definite correlation with

TABLE 3  
Hepatomegaly in 138 Malnutrition Cases

	No. Cases
Hepatomegaly by percussion	89
Extremely large livers	6
Liver enlargement by palpation (3 were normal by palpation)	11
Causes of hepatomegaly	
Due solely to malnutrition	85 (61%)
Congestive failure	3
Hepatitis	1
Obesity and alcoholism	1
Average size of enlarged livers by percussion 10.1 cm.	
a) maximum (normal male)—7.5 cm.	
b) maximum (normal female)—7.0 cm.	
Return to normal size with treatment	29

the malnutrition. As to the nature of the diarrhea, these patients present intermittent, liquid stools, mild hyperperistalsis and no demonstrable evidence of organic disease of the intestine.

#### LABORATORY DATA

The patients with malnutrition had an average red blood count of 3.95 million cells and a hemoglobin value of 11.6 gm., or 71%. The moderate degree of anemia is normochromic. Hypochromic anemia due to iron deficiency was rectified in one patient by the administration of ferrous sulfate. Hypochromic anemia in another case proved to be secondary to vaginal bleeding. Most probably, the prevalent anemia in these undernourished individuals is related to the malnutrition.

Serum protein determinations were made in a number of these cases with malnutrition. The average readings in these cases are as follows: total protein, 6.4 gm.; serum albumin, 3.8 gm.; serum globulin, 3.6 gm.

These data are well within the normal limits. The serum calcium and phosphorus determinations were not altered significantly in this group.

#### THE PREVALENCE OF MALNUTRITION IN THE COMMON CHRONIC DISABILITIES

The more common disabling chronic diseases in patients admitted to the Nursing Home are listed in table 4 in the order of frequency with which malnutrition is found in each disease. For example, there are six cases of cerebral dementia, and undernutrition was present in each one, a 100% incidence; 10 of 19 patients with rheumatoid arthritis presented clinically significant undernutrition, an incidence of 52%, etc. Other conditions in which malnutrition occurs with great frequency are carcinoma (43%), congestive heart failure (40%) and multiple sclerosis (35%). Although the incidence of malnutrition is comparatively lower in such important chronic disabilities as cerebrovascular accident, amputation and basal ganglion dis-

TABLE 4  
Incidence of Malnutrition in Leading Chronic Diseases

	Malnutrition Cases	Total Cases in Series	Incidence of Malnutrition
1. Cerebral dementia	6	6	100%
2. Rheumatoid arthritis	10	18	52%
3. Carcinoma	32	75	43%
4. Congestive heart failure	10	25	40%
5. Multiple sclerosis	6	17	35%
6. Cerebrovascular accident	20	87	23%
7. Amputation	6	30	20%
8. Basal ganglion diseases	6	33	18%

eases, still, when malnutrition is present in these cases, its deleterious effect on the longevity and management of the patient is most apparent.

#### TREATMENT

After a patient's nutritional status has been evaluated a decision must be made as to whether it should be changed and, if so, how. In some cases nutritional deficiency is corrected simply by providing the standard institutional diet with proper supervision and encouragement. In most of our cases (126) some type of high caloric diet was prescribed. In 95 patients the diet was composed of P, 150 gm.; C, 600 gm.; F, 150 gm., a total of 4,350 calories. This was usually administered in six feedings, sometimes augmented by supplementary feedings. In 14 patients the regular house diet was augmented, either by extra protein or by a special formula, to bring the caloric intake up to 4,000 to 5,000 calories daily. In three patients who refused all feedings, a special formula of milk, amino acids and Calcitose was given in 200 c.c. amounts every one to two hours around the clock. Eleven patients refused all food and had to be fed via a gastrostomy.



A favorable response to the high caloric diet was obtained in over half (71 cases) of the 138 patients in this study.

*Adjuvants:* An attempt was made to stimulate an increase in food intake in many patients. A variety of measures was utilized (table 5). Of all these agents, a significant response was observed with three, viz., thiamin chloride, methyl testosterone with estrogens, and thyroid extract. Since only a few cases received any one of these agents the results are, at best, merely suggestive. It should be added, however, that most of these preparations were discontinued mainly because the clinical response was not impressive enough to warrant their continued use. However, despite the limited number of cases, the percentage of favorable results with thiamin

TABLE 5  
Adjuvants Employed in Treatment of Undernutrition

Agent and Dose	No. Cases	Favorable Results	Percentage
Thiamin chloride (10-20 mg. daily parenterally)	6	4	66%
Methyltestosterone, 10 mg., with estrogen, 1.25 mg. orally	3	2	66%
Thyroid extract (2-3 gr. daily)	11	6	60+
Cortisone (25-100 mg. daily)	3	1	33%
Taka-Combex (1-2 tablets, 3 times daily)	6	2	33%
Tube feedings (200-400 c.c. of a high caloric formula every 2-3 hours via Levine, Miller-Abbott or polyethylene tube)	11	3	30%
Gastrostomy	7	1	15%
Vitamin B complex (3 c.c. daily, IM, or elixir 4 c.c.-ac t.i.d., or multi-vitamin tablets)	10	1	10%
Testosterone (25-50 mg. 2-3 times weekly)	10	0	0%
Crude liver extract (1-2 c.c. IM 2 to 3 times weekly)	5	0	0%
Lextron (1 tablet or capsule 3 times daily)	4	0	0%
ACTH (25 mg. daily)	3	0	0%
Brewer's yeast	3	0	0%
Ascorbic acid (50-100 mg. daily)	2	0	0%
Iron, quinine and sulfur (I.Q. & S.)	1	0	0%
Spiritus frumenti	1	0	0%

chloride, methyl testosterone with estrogen, and thyroid extract might warrant further trials.

The experience with tube feedings is worthy of discussion, since this measure was only undertaken *per force* in patients who utterly rejected all food. Many refused to swallow the tube, others removed it repeatedly, and, in general, for one reason or another, the tube feeding method gave unexpectedly poor results. The same poor results were obtained in the gastrostomy cases.

*Type of Response:* In table 6 can be seen the results observed in patients responding favorably to the high caloric régime. Of 71 patients in whom a favorable response was noted, 52 had a weight gain. The increase in weight varied from three to 52 pounds, an average of 14 pounds for the

group. A reduction in the size of the liver was noted in 29 patients. The clinical appearance of the patient showed improvement in 12 cases, and in nine others the favorable response was reflected by such increased physical activity as ambulation, etc. A permanent improvement in appetite was recorded in nine patients. Other, less frequent responses to improved nutrition are listed in table 6.

*Final Disposition of Cases:* The majority (81 cases) of the 138 patients in this study have since died, which is not unexpected, since all patients are admitted with a permanent or incurable illness. There are 43 patients still alive at the Nursing Home and, of these, eight have been improved or cured. It is noteworthy that 11 patients were actually discharged as cured, having been admitted with a great variety of diagnoses other than undernutrition. The role of malnutrition as a disabling factor was only brought to light following improvement on the high caloric regimen. When the nutritional

TABLE 6  
Response to High Caloric Diets

	No. Cases
Weight gain, 3-52 lbs., av. 14 lb.	52
Reduction in size of liver	29
Improved appearance	12
Improved appetite	9
Increased physical activity	9
Better disposition	7
Increased vigor and sense of well being	7
Healed decubiti	4
Improved living habits	3
Normal tongue	3
Improved red blood count and hemoglobin	3
Disappearance of muscle atrophy	2
Obesity	2
Miscellaneous	
(a) Alertness	
(b) Disappearance of gastric complaints	
(c) Improved skin appearance	
(d) Loss of hyperesthesia	

defect was overcome there was no longer present a condition sufficiently disabling to necessitate hospitalization, and they were discharged. I believe the significance of the results in this latter group cannot be overemphasized.

*Causes of Death in Malnutrition Cases:* Postmortem examination was performed on 32 of the 81 patients with malnutrition who died. One cannot fail to be impressed, despite the small size of the series, by the fact that the leading cause of death was malnutrition per se in nine cases, or approximately 30% of the deaths. Although bronchopneumonia is a frequent terminal event in any autopsy series, we strongly suspect an even greater predilection of severely malnourished individuals to pneumonia.

#### CAUSES OF MALNUTRITION (Table 7)

*Poor Food and Eating Habits:* The leading basic cause of malnutrition in this series of 138 patients proved to be poor eating habits of long standing.

This condition was found in 37 cases, and we suspect that a more detailed inquiry would have revealed a higher incidence of this factor as the cause of undernutrition. While this tendency to food "idiosyncrasy" might be mistaken for the common anorexia of ill persons at first glance, it more truly represents a lifelong disturbance brought into focus by an attempt to feed them a proper diet.

*Psychiatric States:* The tendency of persons with neuropsychiatric and psychotic illnesses to curtail their food intake is well known. This proved to be true also in this series, in which 20 patients developed undernutrition solely as a result of a neuropsychiatric disturbance.

*Anorexia:* To whatever causes this may be due, it is obvious that persistent loss of appetite will lead to undernutrition in due time. The needed energy, not being sufficiently supplied exogenously, is obtained by gradually using up the bodily reserves of fat, glycogen and protein. In a well nourished, fasting subject, 87% of the total energy requirement is derived from fat stores and only 13% from tissue protein.<sup>8</sup> When the fat reserves have been exhausted the rate of protein destruction is accelerated.

TABLE 7  
Principal Causes of Malnutrition

	No. Cases
1. Poor food and eating habits	23
2. Psychiatric (psychoses included)	20
3. Anorexia	18
4. Social status	16
5. Carcinoma of esophagus	9
6. Intercurrent infection	8
7. Inattention to food intake by attending staff	6

Reliable information as to the status of the appetite was obtained in 56 patients. This inquiry uncovered some very interesting data. Twenty-six of 56 patients insisted that their appetites were good. Some even considered their appetites tremendous, and exclaimed, "I eat like a horse." Eighteen patients realized that their appetites were "poor" or "very poor." In addition, 11 patients refused all food and drink. One nurse described the appetite of another patient as, "He eats like a bird." The observations of the nursing staff did not always support the patients' evaluation of their own appetites. For example, some patients with "good appetites" actually consumed only part of their trays.

We were unable to find an immediate cause for the anorexia in most of these patients, with the exception of digitalis toxicity in one patient. Therefore, one can strongly suspect that the majority of the patients in this category also belong in Group 1 (poor food and eating habits), which would have been revealed had a better analysis of their dietaries been possible.

*Social Status:* There were only 16 patients in whom the social or economic status proved to be a significant cause of undernutrition. In these 16

cases the most important factor proved to be solitude. There were 11 bachelors who lived alone, usually in a room, hotel, boarding home, etc. This situation necessitated that they cook their own meals, which they usually preferred to forego.

The economic factor (insufficient funds) played a significant role in only five cases. In these persons a weekly allowance of \$2.00 to \$11.00 for rent and food was obviously insufficient. The cost of meat precluded an adequate protein intake, and weight losses were rapid. One patient, living in a public lodging house with many vagrants, found this environment so distasteful that he lost his appetite and 20 pounds in weight in six months.

Many of these patients are aged individuals, frequently living in attic rooms, who cook very little, if any, and dine out but rarely. With the onset of a disabling illness their diet already has been inadequate at best.

*Other Causes:* The mechanism of production of undernutrition in cases of carcinoma of the esophagus needs no comment. However, the importance of intercurrent infection in producing undernutrition is worthy of emphasis. The well known anorexia of acute infection appears to become permanent in a significant number of individuals.

One cause of undernutrition which is especially noteworthy is traceable directly to apathy, disinterest or inattention by the professional staff, even in the face of a progressively diminishing food consumption and weight loss. In other words, failure to recognize and deal with the condition was a primary factor in the development of malnutrition in six cases. In these cases the patient failed to take a proper diet only because of the lack of enthusiasm of his attendants.

#### DISCUSSION

The high incidence of terminal infections in patients who die with advanced malnutrition is a common clinical observation. For example, skin infections were common in prison and concentration camps during World War II. There is no question as to the relationship of tuberculosis and the adequacy of the food intake, as seen in the high incidence of "galloping consumption" among prisoners of war. In our own malnutrition cases bronchopneumonia is a frequent terminal event.

Normal function of the individual organs of the body hinges greatly on adequate food intake. The gastrointestinal tract is very susceptible to nutritional inadequacy; thus, anorexia is a very early symptom in undernutrition and a real handicap in its treatment. Diarrhea is a frequent occurrence in severe, prolonged malnutrition. As shown above, malnutrition may lead to changes in the central nervous system, producing symptoms such as forgetfulness, irritability, uneasiness and gross mental changes.

An important effect of starvation, in our opinion, is the increased fat content and the accompanying reduction of the protein content of the liver. Fatty infiltration and incipient fibrosis, produced in animals by low-protein diets, is reversible by feeding adequate diets if the process has not gone too

far. There are good reasons for strong suspicion that the incidence of infectious hepatitis is markedly increased in a malnourished population.<sup>4</sup> The striking therapeutic value of a high caloric diet in this condition has been reported previously.<sup>5</sup>

The great prevalence of malnutrition among chronically disabled persons, as revealed by this study, in a country so well stocked with food as the United States, is frustrating and irksome, if not actually shocking. The importance of the present observations is further accentuated by recent study<sup>5</sup> showing that malnutrition per se is the sixth highest cause of prolonged disability. In other words, these malnourished individuals could have remained well and normally active if they had not failed to consume an adequate diet. Undernutrition, with its various manifestations, is not a disease exclusive of the chronically ill and the aged, but occurs in the so-called normal population as well. Actually, it will be pointed out below that the incidence of undernutrition and underweight among so-called "healthy" individuals (33%) is almost as great as the incidence of this condition among sick people.

In each patient the starting point should be an evaluation of the caloric intake at the time. Is he overweight or underweight? Undernutrition involves the fat content of the body, but there may be muscular atrophy also. Aside from advanced emaciation, so obvious to everyone, the recognition of lesser degrees of this abnormality, present in a large proportion of persons, is called for. It appears from the present studies that the pendulum of interest must necessarily swing back toward the older problem of calories. The physician's obligation with respect to the caloric requirements of his patients is a great and, in many cases, a complicated one. There is abundant evidence from which to conclude that, more often than not, this job is incompletely done or shirked entirely. Lack of emphasis in undergraduate teaching and the poverty of published data on malnutrition are not sufficient excuses to relieve the physician of this responsibility.

Although an effort has been made to uncover all possible causes of undernutrition in the 138 patients in this series, it was obviously impossible to make a comprehensive dietary study and psychiatric evaluation in every case. We believe a more exhaustive survey would have increased greatly the number of cases in categories 1 and 2 (poor food and eating habits, and psychiatric disturbances). The 18 patients classified under "anorexia" serve to illustrate this point.

The type and quantity of food consumed by many normal individuals are controlled with surprising accuracy by the appetite. This regulatory mechanism is very easily upset by illness. As might be expected, anorexia can be held accountable for the diminished food intake in practically every instance. If the appetite can be impaired by such a minor disturbance as the common cold, small wonder that patients with prolonged illness—cancer, heart disease, fractures, etc.—eat poorly.

Frequently, undernutrition is brought about by a so-called therapeutic diet. All too often there has been a prolonged period of decreased food intake before admission. One can conclude that very few hospitalized patients are likely to consume sufficient calories to meet their energy demands. Consequently, they draw on their body stores of fat and protein. It becomes apparent, therefore, that new dietary standards must be established for the sick.

*Food Idiosyncrasy:* The data in the present study indicate clearly that human beings are subject to the caprices of their own appetites, and eat what they please and not necessarily the most beneficial foods. Further investigation reveals that their finical eating habits originate in childhood and are propagated throughout their adult lives. Their well established food preferences become bolstered through the years by a conviction that the food is not the sole factor which underlies malnutrition. It seems to us that, in many cases, the cause is closely related to the psyche.

As an example of poor food habits we cite briefly the results of a survey made in 1951 of 450 ambulatory residents of the City of Cleveland Infirmary. By comparing the patient's actual weight and his ideal weight it was found that approximately one third of these individuals were overweight, one third underweight and one third normal in weight. Each individual had been given the standard institutional diet for many months and years, yet exercised food preferences in such a manner that the obese ones selected the high fat, high carbohydrate foods, whereas the underweight individuals shied away from these foods.

The existence of food idiosyncrasies in large groups can be illustrated by another experience. During World War II one of us observed the effect of the standard Army diet of approximately 3,000 calories. It should be pointed out that all of the food was usually consumed in toto. A large number of underweight soldiers gained weight on this diet, while the overweight individuals frequently lost weight and those who were normal maintained their weight.

*Treatment:* It would seem incongruous, with the abundance of food available in these United States, that man should not attain an ideal balance between caloric intake and energy output, even in the face of such disturbing factors as processed and fad foods, and the social pressures associated with eating, not to mention the food idiosyncrasies of the individual himself.

In our experience it is fruitless to prescribe a high caloric diet without a sufficient fat content. Foods largely composed of fat (butter, cream, cheese, bacon, olive oil, nuts, etc.) have the highest caloric value, since 1 gm. of fat yields nine calories of heat, as compared to the four calories per gram yielded by protein and carbohydrate. Inasmuch as diets low in fat are likewise low in calories, it is usually impossible to secure an intake of this type of diet adequate to meet a patient's caloric requirement without exerting exceptional persuasion. Furthermore, low fat diets usually fail to overcome



anorexia, largely because of their unappetizing character, but also partly because of the low caloric content. There are many ways to increase the fat content of the diet. For example, cream and sugar may be taken with cereals and fruits; vegetables are rendered more appetizing by the use of butter in cooking. Boiled potatoes are improved by mashing and mixing with cream and butter; the resulting "potato cream" has a high caloric value. Since most people prefer toast to bread, one can take advantage of the fact that, weight for weight, toast contains less water and more calories. The addition of cream to soup actually improves its flavor.

Contrary to current medical opinion, patients with acute cellular liver damage tolerate fats extremely well. Moreover, as judged from the weight gain, the fat in the diet is utilized. It should be pointed out that, in the experimental production of liver damage, the administration of excessively high fat diets necessitated a marked restriction of protein to abnormally low levels. Unfortunately, patients, and even physicians, are prone to hold fats responsible for digestive discomforts. We found this criticism to be unjustifiable in treating infectious hepatitis in World War II.<sup>4</sup> Striking results were obtained with the inclusion of 200 gm. of fat in the diet. Subsequently, Hoagland et al.<sup>7</sup> corroborated the beneficial effect of a high fat intake in hepatitis. The task of maintaining an adequate caloric intake is unnecessarily complicated by restricting fats. From our own studies of hepatic disease and those of others it is obvious that the prevailing practice of restricting fats is unjustified. Additional evidence to support the superiority of a high fat diet is provided by serial Bromsulphalein retention tests. In Hoagland's patients normal livers were obtained earlier in the group of patients on the high fat diet.

Too much emphasis is placed on the intravenous administration of dextrose, amino acids, etc., as a substitute for oral intake. The common practice of administering 2,000 to 3,000 c.c. of 5% dextrose daily, and paying no heed to oral intake, is in our opinion a serious mistake. An adequate caloric intake cannot possibly be achieved, at present, by any type of intravenous alimentation. From the above-mentioned amount of dextrose the patient receives only 400 to 600 calories, approximately one third of the basal metabolic requirement. We have always thought that intravenous preparations would be used less frequently as feedings were they labeled in calories instead of in cubic centimeters. Since there is no special virtue in intravenous alimentation, oral foodstuffs should always be administered if at all possible.

The caloric value of the diet should be as high as possible. The ratio of carbohydrate and protein is less important than the calories which they furnish. Reports of the beneficial or corrective effects of large doses of a vitamin preparation in a given or incurable disease, or in supposed malnutrition, incite the general public to demand their inclusion in the diet. Clinical signs of overt vitamin deficiency are rarely encountered in those

undernutrition cases which we have observed in a temperate climate, in marked contrast to the frequency of vitamin deficiencies in warm climates. In this connection, our observations of a large group of undernourished patients in a hospital for chronic diseases (The City of Cleveland Chronic Hospital) are noteworthy. Many patients had been taking large doses of brewer's yeast over long periods of time—months and years. The utter inadequacy of this therapeutic approach was quickly revealed by a mere glance at the large number of cachectic persons in this group. In other words, vitamins per se, or any other preparation designed to stimulate eating, are totally ineffective without provision of a diet containing sufficient calories. We believe that the treatment for undernutrition is a good diet, not vitamin supplements.

*Improvement of Appetite:* Our results with adjuvants designed to improve the patient's appetite are recorded in table 5. Much has been published about the tremendous value of thiamin chloride in anorexia. It is true that experimentally induced thiamin deficiency in animals is characterized by a marked loss of appetite, which promptly returns by feeding this substance. Though the administration of thiamin chloride appeared to have a beneficial effect in a high proportion of cases in this series, the number of patients is too small to be significant.

Benedict<sup>2</sup> noted an average fall of the basal metabolism in his students on a reduced diet of from 101% to 88.5% in six weeks. Thyroid extract was given empirically to 11 patients in the present series, in the hope of stimulating an increased food intake. A favorable effect of increased intake and weight gain was noted in six of the 11 patients. We believe further observations along this line are indicated.

Another avenue of approach is suggested by the experiments of Pembrey and Spriggs,<sup>9</sup> who noted that rats fed after a fast showed a rapid increase of weight. These observations were later confirmed and tried on humans.<sup>10</sup> The previous hunger apparently acts as a stimulus. The patient is kept in bed on fast days as well as on other days at first, but later is permitted to be up on the full-diet days. Pembrey reports the greatest weight gains in the most undernourished patients. We have had no personal experience with this method.

In general, simple appetite stimulation is not the final answer to increased food intake and weight gain. Consequently, it is unwise to use the existence of anorexia as a clinical yardstick to justify the prescription of thiamin or other adjuvants.

*Results of Treatment:* The food served does not necessarily reflect the patient's food intake. As shown by a survey of the house diets in a general hospital DuBois and Chambers<sup>8</sup> found a daily variation of between 1,900 and 3,200 calories, with an average of 2,570 calories. In a semi-private group of patients, served a menu of approximately 3,000 calories, about 25% of the bread, butter and vegetables and 37% of the salads were not eaten.

On the other hand, ward patients left between 5 and 10% of the food served. Even the best meal, if not consumed, is insufficient to maintain adequate nutrition. While the food rejected by these patients may not have suited their fancy, nevertheless, if it had been eaten, it was qualitatively and quantitatively adequate in amount to prevent malnutrition.

In the management of malnutrition patients one encounters a tremendous resistance to food varying from simple obstinacy to open hostility. As pointed out above, critical analysis of the dietary habits of patients with food idiosyncrasies reveals a certain self-selectivity for food within a narrow range. While clear-cut nutritional deficiencies such as are encountered experimentally are uncommon, still, an unwise choice of foods, or an imbalance of factors essential for health, undoubtedly leads to subclinical defects in time.

We have found that many patients can be persuaded to eat provided the attending staff, including physicians, have sufficient conviction to expend more effort on feeding patients, rather than seek the easier but ineffective route of adjuvants. Knowledge that the malnutrition process, even in advanced stages, is reversible has impelled us to attack this problem vigorously. While attempts to alter lifetime eating habits are fraught with difficulties, the success of these efforts is shown herein. It is true, in contrast to acute malnutrition, that patients with chronic undernutrition progress slowly and respond slowly in most cases.

The fact that nutritional problems of adults are often traceable to childhood eating habits should be stressed. Nurses assigned to feed malnutrition cases frequently recognize the true underlying cause of the patient's reluctance to eat and have been overheard to say in disgust: "If I ever have any children you can bet they will eat everything." Despite the fact that malnutrition frequently has its roots in childhood, this is not a sufficient reason to gloss over the nutritional problems of the adult.

#### SUMMARY

The high incidence of undernutrition among patients with chronic diseases is emphasized in the present paper, in which 138 cases are analyzed. The clinical findings associated with malnutrition in these cases are reviewed in detail. The causes underlying the development of dietary inadequacy have been sought.

In the treatment of undernutrition many types of therapy have been tried. An adequate, varied diet with optimal amounts of all necessary factors is most efficacious. The vicious cycle associated with malnutrition, and perpetuated by anorexia, can be overcome in a few days by forced feeding.

#### SUMMARIO IN INTERLINGUA

Nos ha constatate que obesitate e subalimentation occurre in 43 pro cento del patientes in le Sanatorio de Cuyahoga County que es un establimento pro morbos chronic. In le studio hic reportate, varie aspectos de subalimentation es analysate

criticamente in 138 patientes qui se trovava al sanatorio pro un ration o un altere. Le condition del subalimentation in morbos chronic pare haber nulle predilection quanto a etate, sexo, o racia.

Le perdita median de peso in nostre gruppo de patientes es 18,225 kg. Iste perdita es frequentemente manifeste in le apparition general del patiente. Altere profunde effectos es a notar in iste patientes. Illos es hepatomegalia, defectos dental, pallor, debilitate, ulceres decubital, atrophia muscular, lesiones del pelle e de membranas mucose, disturbanceones psychiatric, edema peripheric, e diarrhea.

In general le subalimentate patientes habeva un anemia normochromic de moderatissime severitate, con un conto erythrocytic median de 3,95 milliones cellulas e un amonta median de 11,6 g de hemoglobina. Nulle altere significative constataciones laboratorial es a mencionar.

Ben que subalimentation esseva constatate frequentemente in patientes con omne generes de conditiones, le frequentia de subalimentation esseva specialmente alte in patientes con dementia cerebral, arthritis rheumatoide, carcinoma, congestive disfallimento cardiac, e multiple sclerosis.

In le tractamento del subalimentation de iste patientes, nostre prime consideration es semper le provision de un ben-equilibrate normal typo de dieta con un valor caloric inter 4000 e 5000. Multe effortio es dedicate a urger le patientes a ingerer iste alimentos in lor totalitate. Le uso de adjuvantes pro stimular le appetito non ha habite un successo general. Super le base del resultados observate in alicun casos in que nos usava chlorido de thiamina, methylotestosterona con estrogeno, e extractos thyroide, nos crede que essayos additional con iste agentes es indicate. Circa un medietate del casos respondeva favorabilemente a lor dieta de alte contento caloric. Le pesos se augmentava e altere signos desirabile comenciava manifestar se.

In le casos mortal, le autopsia demonstrava le subalimentation como causa predominante del morte. Complicante bronchopneumonia esseva frequente.

In nostre analyse del possibile etiologia de subalimentation, le factores del plus grande importantia esseva mal habitudines nutritional, statos psychiatric, e basse conditiones social e economic.

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## LIPOID PNEUMONIA IN A VETERANS HOSPITAL \*

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### INTRODUCTION

THE extent of lipid pneumonia observed at autopsy in two cases in the latter part of 1951 resulted in a ban on the oral use of mineral oil in the Colonel Belcher (D.V.A.) Hospital. Although our institution contained a large proportion of older, chronically ill patients reported to be susceptible to this hazard, the ban was not popular. The report of Volk and associates<sup>1</sup> had, however, suggested that lipid pneumonia was probably more common than is generally realized. We therefore determined to investigate the extent of the problem by reviewing our autopsy material.

### BRIEF REVIEW OF THE LITERATURE

Lipoid pneumonia was first emphasized as a relatively acute disorder in debilitated infants. It was often associated with forced feeding of cod liver oil, with frequent regurgitation of milk fats, or with nose drops containing mineral oil. The first English language publication on the subject was by Laughlin,<sup>2</sup> who in 1925 described four cases, one in an adult. Pinkerton's<sup>3</sup> work in 1927 again emphasized its importance in pediatrics. By 1937 Ikeda<sup>4</sup> was able to collect from the literature only 38 cases in adults, and added five cases of his own. He noted that in nearly all adult cases mineral oil was the etiologic agent, and that it might be found in cases using it by mouth, although most were thought to be due to the use of oily nose drops and sprays.

By 1941 Kaplan,<sup>5</sup> in reviewing the literature, was able to collect 86 cases over nine years of age, all due to mineral oil. In 1943 Sweeney,<sup>6</sup> in reviewing the subject from the point of view of an otolaryngologist, noted that of all cases, adults and children combined, half were due to the ingestion of mineral oil. Mineral oil was considered a danger chiefly to the debilitated elderly, or to those whose neurologic disabilities made swallowing difficult. Sodeman and Stuart<sup>7</sup> reviewed the problem of lipid pneumonia in adults, noting that it often presents in varied guises, making diagnosis difficult. Hastings<sup>8</sup> reported two cases in whom diagnostic bronchoscopy touched off fatal pulmonary hemorrhage, and commented on the tendency to bleed due to the degenerative lesions peculiar to mineral oil pneumonia.

\* Presented at the Prairie Regional Meeting of The American College of Physicians, Regina, Saskatchewan, February 4 and 5, 1955.

Received for publication May 2, 1955.

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In some of the more recent publications the disorder is regarded as a rare source of diagnostic difficulty. Thus McDonald and Hodgson,<sup>9</sup> of Mayo's, recently described cases which might be mistaken for carcinoma of the lung. On the other hand, the work of Volk and his associates<sup>1</sup> suggests that, in adults, lipid pneumonia due to mineral oil is probably much more common than is generally realized. Among 389 patients hospitalized for chronic illnesses, they found 57 cases of lipid pneumonia.

#### COLONEL BELCHER HOSPITAL CASES, 1947-1954

Among slightly over 600 autopsies at our hospital between September, 1947, and December, 1954, inclusive, our pathologist, Dr. J. D. Duffin, has

TABLE 1  
Lipoid Pneumonia in Hemiplegias

Case No. and Initials	Age at Death	Duration of Hemiplegia	Duration of Marked Immobility	Months Since Last Mineral Oil	Principal Cause of Death	Pulmonary State Prior to Death	Autopsy Findings Related to Lungs
1 J. G. B.	72	4 yrs.	48 mos.	?	Acute cerebrovascular occlusion	Not significant	Grossly not significant. Early lipid pneumonia. Some early fibrosis noted on microscopic examination
2 C. G.	67	7 yrs.	0	12	Acute coronary occlusion	Not significant	Patchy areas of indefinite induration both lower lobes. Microscopic showed early lipid pneumonia
3 H. M.	54	?	9 mos.	?	Coronary occlusion and embolization	6 weeks' "bronchopneumonia," not resolving	Extensive involvement, right lower lobe, with areas of consolidation proved microscopically to be principally lipid pneumonia with some fibrosis. Bronchopneumonia associated
4 J. C.	74	11 yrs.	4 mos.	18	Peptic ulcer with gastrocolic fistula and recurrent hemorrhage	Chronic cough with recurrent acute episodes and increasing cough and dyspnea	Lipoid pneumonia in right upper lobe and both lower lobes, with patchy fibrosed areas and associated bronchopneumonia
5 H. H.	76	4 yrs.	16 mos.	?	Lipoid pneumonia and fibrinous pericarditis	Thought due to heart failure; 4 days' acute terminal pneumonia	Both lower lobes and right upper lobe extensively affected by lipid bronchopneumonia. Sections showed both recent and old areas and little associated infection

uncovered 14 cases having lipid pneumonia, all of which are attributed to mineral oil. For convenience, these cases are presented in tabulated form, grouped according to principal diagnostic categories.

Hemiplegia was the principal disability common to the five cases shown in table 1. In one case, who was aphasic, the duration of the hemiplegia is not known. The others were more or less disabled for periods of from four to eleven years. All but one were right-sided hemiplegias. The periods during which the patients were relatively immobile are shown to vary from zero to 48 months. In the first two cases the amount of lipid pneumonia



was not extensive or clinically significant. In the second, however, it was of interest because it appeared as an early form of lipid pneumonia some 12 months after cessation of medication with mineral oil. The third case had six weeks of pulmonary difficulty prior to death. On autopsy he had extensive involvement of the right lower lobe, which showed confluent areas of consolidation which proved to be moderately advanced lipid pneumonia. His death, however, was due to a coronary occlusion.

The fourth case had a great deal of pulmonary difficulty, characterized by chronic cough and a few recurrent episodes of acute bronchopneumonia. This was sufficient to prevent any consideration of surgery for the treatment of his peptic ulcer, which finally led to his death. Autopsy disclosed multilobar involvement with lipid pneumonia and associated terminal bronchial pneumonia.

The fifth case, the oldest, had some cough and dyspnea considered due to congestive heart failure. Autopsy disclosed pulmonary involvement with

TABLE 2  
Lipoid Pneumonia in Cases of Paralysis Agitans

Case No. and Initials	Age at Death	Duration of Disability	Duration of Marked Immobility	Months Since Last Mineral Oil	Principal Cause of Death	Pulmonary State Prior to Death	Autopsy Findings Related to Lungs
6 W. B.	55	22 yrs.	3 days	?	Lipoid pneumonia	Not noted	Extensive confluent pneumonic areas, both lower lobes, shown microscopically to be largely a lipid pneumonia with variable areas of fibrosis
7 D. S.	64	11 yrs.	4 yrs.	20	Paraneuritic abscess	Not notable until last few months, when recurrent bronchopneumonia was treated	Multiple areas of firm consolidation, both lower lobes, shown to consist of advanced lipid pneumonia with fibrosis
8 J. W.	74	11 yrs.	1 mo.	32	Lipoid pneumonia	Occasional bronchopneumonic episode. Terminal pneumonia 2 weeks' duration	Consolidation, both lower lobes and right middle lobe, due to advanced lipid pneumonia

lipid pneumonia affecting three lobes. This was associated with an acute fibrinous pericarditis and is considered the prime cause of death.

Paralysis agitans was the principal disability in the three cases shown in table 2. The ages varied from 55 to 74, and the length of illness from 11 to 22 years. One case was relatively immobilized for four years. The other two were ambulant until brief terminal illnesses developed. All are of interest because of the extent of lipid pneumonia disclosed at autopsy. In case 6 this involved both lower lobes extensively. There was some associated terminal bronchopneumonia, but the cause of death is considered largely due to lipid pneumonia. Prior to a brief terminal illness he appeared to have little trouble from his pulmonary condition. Case 7 developed pulmonary difficulties some 15 months after mineral oil was discontinued. He then developed unresolving bronchopneumonia associated

with a perinephric abscess, which must have contributed to his general debility and is credited with his death. However, he had advanced lipid pneumonia involving both lower lobes. Case 8, the oldest of this group, was ambulant until shortly before his death, which was due to lipid pneumonia. He had suffered from only occasional brief bronchopneumonic episodes, and the terminal illness was of two weeks' duration. At autopsy his lungs disclosed consolidation of both lower lobes and the right middle lobe, due to advanced lipid pneumonia.

Senility was the principal disability in three of our cases of lipid pneumonia. Their periods of relative immobility as bed patients varied from two to 18 months. All showed moderately advanced lipid changes in areas throughout the right lower lobe. This was most marked in case 11, who was ambulant until the terminal two months. None had notable difficulty

TABLE 3  
Lipoid Pneumonia in Senile Patients

Case No. and Initials	Age at Death	Duration of Disability	Duration of Marked Immobility	Months Since Last Mineral Oil	Principal Cause of Death	Pulmonary State Prior to Death	Autopsy Findings Related to Lungs
9 J. B.	78	?	18 mos.	?	Cachexia and bronchopneumonia	Not noted	Patchy fibrosis and indefinite areas of consolidation, right lower lobe. Microscopy demonstrated moderately advanced lipid pneumonia mixed with bronchopneumonia
10 E. C.	77	?	4 mos.	?	Lipoid pneumonia and fibrinous pericarditis	Little difficulty until last 2 weeks	Acute confluent pneumonia areas affecting nearly all right lower lobe proved due to lipid. It was associated with fibrinous pleurisy and pericarditis
11 A. N.	81	?	2 mos.	12	Lipoid pneumonia	Not marked clinically, but marked x-ray findings noted for 10 months	Generalized consolidation of right lower lobe. Microscopy disclosed much fibrosis due to lipid and evidence of recent pneumonic overlay

with cough or pulmonary infections except for terminal pneumonic illnesses. In case 11, however, x-ray findings disclosed marked changes, presumably due to lipid pneumonia 10 months prior to death. Like case 5, case 10 had lipid pneumonia associated with a fibrinous pericarditis. No infective agent was disclosed in either case. It must be considered that the lipid pneumonia rendered very capable assistance to the pulmonary infection with which it was associated terminally in these cases.

Miscellaneous disabilities were associated with lipid pneumonia in the three cases shown in table 4. Case 12 died of congestive heart failure, and the lipid pneumonia was early and not extensive. Case 13 is of interest as the only case known to have been taking oily nose drops. He suffered from an undiagnosed cerebellopontine angle tumor which interfered with speech and swallowing. He was admitted shortly before death, suffering from terminal aspiration pneumonia found to be associated with early lipid

pneumonia, which in some areas had developed to a fibrous stage. The last patient (case 14) had been taking mineral oil to aid in the management of a colostomy done a year and a half previous to his death. He died because of extensive pulmonary metastases, which were found to be intermixed with extensive early lipoid pneumonia and which must have contributed considerably to his terminal dyspnea.

#### CLINICOPATHOLOGIC FINDINGS

*Etiology:* As the tables show, all our cases were in elderly males. The average age at death was 68 years. Since ours is a veterans hospital, we do not have females or children in the picture.

It is noted in our series that chronic illness, particularly if it involves the brain, would appear to be a factor of importance. It should be borne

TABLE 4  
Lipoid Pneumonia Associated with Miscellaneous Conditions

Case No. and Initials	Age at Death	Duration of Disability	Duration of Marked Immobility	Months Since Last Mineral Oil	Principal Cause of Death	Pulmonary State Prior to Death	Autopsy Findings Related to Lungs
12 L. W.	58	2 yrs.	1½ mos.	?	Congestive heart failure	As for C. H. F.	Pleural effusion and pulmonary edema with 5 or 6 localized, 1 cm. areas of lipoid pneumonia, showing early and moderate fibrosis
13 D. E.	60	1 yr.	0	?	Acute aspiration pneumonia due to cerebello-pontine angle tumor	Few days' terminal acute illness	Extensive bronchopneumonia with evidence of aspiration of gastric contents. Microscopy showed mixed infection and recent active lipoid pneumonia with early fibrosis. A fibrinous pleurisy noted
14 J. K.	54	1½ yrs.	1 mo.	1 mo.	Adenocarcinoma with pleural metastases	Increasing cough and dyspnea last month	Multiple nodular areas of carcinoma intermixed with extensive early lipoid pneumonia

in mind, however, that our hospital tends to have an unusual proportion of chronically ill patients of this type. To gauge the importance of such chronic illness, the histories were carefully reviewed to determine the length of time each patient was markedly immobile or virtually a bed patient. These times have been indicated in the tables. Eight of our cases were relatively inactive for periods of more than two months. On the other hand, three of the cases were ambulant to within a few hours or days of death. One of these had extensive lipoid pneumonia.

Data concerning the use of mineral oil by our cases are not available. Several cases are known who did not receive any mineral oil for the varying periods indicated in the tables. In only one instance were oily nose drops known to have been used.

*Clinical Findings:* The pulmonary state prior to death was, as a rule, of much less concern to both the patient and the doctor than the autopsy ap-

pearance of the lungs would suggest. Only two patients suffered from respiratory difficulties of consequence aside from the terminal illnesses (and these appeared to suffer from chronic bronchitis and some recurrent acute bronchopneumonic episodes over a period of several months). Yet eight cases in all proved to have had extensive involvement of the lungs amounting at least to the major portion of a lobe. All of these had considerable fibrosis, indicating relatively long-standing disease, and in six the pulmonary state constituted an important final cause of death. In one of the others (all with less than massive lobar involvement), it is thought that the lipoid pneumonia was an important contributing factor in his death. It would appear from our experience that the presence of lipoid pneumonia increased the hazard of terminal bronchopneumonia very greatly indeed.

Roentgenographic studies had been undertaken in eight of our cases within two months of death. Five of these had major lobar involvement proved at autopsy. In one of this group of five the chest roentgenogram was not of good diagnostic quality and failed to show any characteristic evidence of disease in the area. In the other four, basal densities were described in such terms as "uniform," "homogeneous," "flocculent" or "streaky." In one of these cases, lipoid pneumonia was suggested by the radiologist. Later, however, this diagnosis was abandoned in favor of chronic pleural changes. The diagnosis of unresolved pneumonia was usually suggested by persisting basal densities indicating chronic fibrosis. In the four cases which showed unusual basal opacities these were known to have been present for a period of at least two months prior to death. In one of these they were marked for a period of three and one-half years prior to death. In this case earlier changes of possible significance were noted from eight to 12 months prior to the development of the more typical changes. The earliest type of change noted was described as increased bronchovascular markings, and these could not be considered in any way diagnostic.

The roentgenograms in case 7 are of interest in that such early findings were first noted 10 months after the use of mineral oil had been discontinued. This case subsequently progressed to show marked basal densities. The remaining three cases, all of whom chanced to have chest films taken shortly before death, all proved to have lesser degrees of lipoid pneumonia at autopsy, and in all of these it was not apparent on the films. In some it may have been obscured by other pulmonary states.

*Pathologic Findings:* The postmortem appearance of the lungs was described in varying terms. In those cases showing the most marked lipoid pneumonia, multiple areas of consolidation were evident and sometimes these were described as "confluent." Occasionally necrotic areas or honeycombing was noted. Sometimes the lungs appeared as if involved with extensive bronchopneumonia. The markedly oily character of the exudate was described in one case. The consolidations were noted on section to be grayish

to yellow in color. In all cases showing marked involvement the microscopic examination disclosed extensive areas of lipoid pneumonia with moderate to marked fibrosis. In many areas, however, the microscopic section disclosed earlier types of lipoid change as well. Admixture with terminal bronchopneumonia was frequently but not always noted in cases that showed massive involvement. In the other cases, showing lesser involvement, the gross appearance of the lung was sometimes not characteristic, the lipoid pneumonia being noted on microscopic slides. Less extensive but older cases had scattered, patchy areas of induration, sometimes moderately firm in the gross.

The microscopic picture was typical. A generalized histiocytic reaction, with characteristic lipophages and occasional foreign body giant cells, patchy infiltration with lymphocytes and plasma cells and development of cuboidal epithelium in the involved alveoli were considered evidence of early lipoid pneumonia. More advanced changes were indicated by an increase in the fibrous thickening of the alveolar walls. Older forms of the disease showed areas of generalized fibrosis punctuated by large globules of oil, with here and there some telltale lipophages.

#### DISCUSSION

The problem of lipoid pneumonia in adults, especially in the older age groups, is more common than has been realized. The recent work of Volk<sup>1</sup> and his associates discloses an incidence of 14.6% in a series of 389 chronically ill patients. Our own series of cases represents an incidence of 2.5% of necropsies. This agrees substantially with the reports of Freiman and associates<sup>10</sup> in 1940.

Our material would indicate that age, chronic illness and diseases of the nervous system are prominent etiologic factors. It is of course apparent that these are the very factors which are likely to be associated with chronic constipation and the use of mineral oil as a cathartic. General inactivity would appear to be important when one considers the predominance of strokes and paralysis agitans in our material. One wonders if inactivity of the bowels and possibly of the cough reflex is not a more important consideration.

On reflection, some factors related to the pathogenesis of lipoid pneumonia may be surmised. The role of swallowing difficulties is obvious, and is more particularly of importance if the patient is recumbent. In several of our cases, at least, this difficulty was obviously not present. One can visualize the fate of mineral oil taken at bedtime. Lighter than gastric and abdominal contents, it tends to float uppermost in the stomach. The average pressure within the abdomen is positive and in the thorax is negative. The result is that globules of mineral oil may be sucked up into the esophagus. Oily substances tend to nullify ciliary activity. Since they do not have the ability to excite the cough reflex, it is easy to understand how they

might be inhaled by the sleeping patient. Once in the lung, the relatively mild reactions noted on microscopy can be well understood. Once phagocytosed, some or all of the oil may be coughed up, and phagocytes may spread the oil to other areas of the lung. In many areas the expulsive forces may be inadequate.

Mineral oil cannot be metabolized by the tissues. Some is carried by macrophages to adjoining lymphatic structures. Some, by embolization, may reach other areas of the body—we found one instance involving the spleen. In our material, glandular reactions were not grossly apparent. This is quite possibly due to failure to search at the time of autopsy examinations. The mineral oil remaining in the lungs becomes permanently trapped if it succeeds in promoting a granulomatous reaction. We feel that this tissue reaction must be a function of the individual and of the purity of the mineral oil, since the disease is by no means uniform in its development or progression. Some of our cases show that the tissue reaction may remain minimal for many months after the use of mineral oil has been discontinued and yet subsequently give rise to extensive consolidated pneumonic areas.

The diagnosis depends to a great measure on an alert appreciation of its probability. The condition is often asymptomatic, and at other times it mimics or is associated with other pulmonary disease. The roentgenographic picture is varied and seldom diagnostic. Several reports, such as those of McDonald and Hodgson<sup>9</sup> and Rewell,<sup>11</sup> concern instances in which the lesion has been considered to be possibly malignant. We note, however, that it is much more commonly confused with chronic or unresolved bronchopneumonia or fibrinous pleurisy. A moderately diffuse "ground glass" density is now recognized as suggesting lipoid pneumonia, but this is a relatively uncommon finding. Sputum studies might be useful in diagnosis, when sputum is available, and special staining technics are applied.<sup>8</sup>

The autopsy diagnosis of lipoid pneumonia depends to a considerable extent on one's being alert to its possibility. In several of our less extensive cases the gross findings were not suggestive, and it chanced that appropriate microscopic sections were prepared. It is easily possible to miss the disorder, especially if it is obscured by terminal hypostatic pneumonia. On the other hand, we feel confident that the routine microscopic slides are adequate to make the diagnosis when the picture is a distinct one, since the tissue reactions to the saponifiable oils are quite different from those due to mineral oil.<sup>4</sup>

We feel that lipoid pneumonia is significant. In several of our cases it was so extensive as to diminish pulmonary function, thus enhancing the dangers of pulmonary infections. It may frequently result in diagnostic and treatment errors. With alternative medications available, one wonders if the pulmonary hazard incident to the ingestion of mineral oil is not sufficient to justify some control over unrestricted use of this medicament.



## SUMMARY AND CONCLUSION

Fourteen adult cases having lipoid pneumonia diagnosed at autopsy over a seven year period have been studied. This gave an incidence of 2.5% in a veterans hospital, where over 90% of all deaths are autopsied.

The majority of cases were elderly, had had other chronic disabilities, and had used mineral oil as a cathartic.

Pulmonary disability due to chronic lipoid pneumonia was less obvious than one would expect, judging by the amount of pulmonary involvement noted at autopsy.

Roentgenographic findings were definite only in the more marked and advanced cases in our series. They were usually subject to misinterpretation.

Characteristic pathologic changes were noted post mortem in all cases, there being marked variation in degree and extent of the findings. Major portions of lung were involved in eight of the 14 cases.

Once established, lipoid pneumonia does not resolve. Some cases appeared to progress very markedly some months after mineral oil had been discontinued.

Lipoid pneumonia is frequently associated with bronchopneumonia, and indeed may predispose to the latter.

It introduces diagnostic difficulties and has reportedly led to surgical intervention.

Continued oral use of mineral oil in adults introduces an insidious pulmonary hazard, the possible extent and probable frequency of which are not commonly appreciated.

## SUMMARIO IN INTERLINGUA

In nostre hospital de veteranos un serie consecutive de 600 autopsias executate in le curso de septo e un tertie annos revelava le presentia de 14 casos de pneumonia lipoide. Iste casos es presentate, e le datos pertinente es tabulate. Le etates del patientes variava ab 54 a 81 annos. Le etate median esseva 68 annos. Le associate statos invalidante chronic includeva hemiplegia in cinque casos, paralysis agitante in tres casos, senilitate in tres casos, e tres casos de varie altere conditiones. Le extension del pneumonia lipoide esseva considerabile in octo casos, i.e., in iste casos le morbo involveva un portion major de un lobo o plus. Associate bronchopneumonia esseva significative in quatro casos. In duo casos pericarditis fibrinose esseva presente.

In nostre casos le datos clinic non habeva suggerite le presentia de pneumonia lipoide. Solmente duo del patientes habeva chronic incapacitate pulmonar de grado importante. Nonobstante, in sex casos le stato pulmonar esseva un causa major del morte.

Un revista de roentgenogrammas thoracic revelava que le constataciones basate super iste technica esseva indicative de minus extense affectiones que le constataciones autoptic. Le alterationes debite a pneumonia lipoide esseva descripte como "densitates basal." Le adjectivos usate pro illos esseva "uniforme," "homogenee," "floculante," e "striate."

Le constataciones del pathologos esseva de accordo con illos trovate in le litteratura que tracta de pneumonia oleo mineral. Es presentate un revista de iste con-

stationes. Ben que difficultates de deglutition e le facto del position decubital es obviemente factores que tende a causar le inhalation de oleo mineral, in un numero de nostre casos iste factores non esseva presente. Nos concipe que le oleo, que es plus leve que aqua, tende a colliger se in le portiones superior del contento gastric ab ubi illo pote esser sugite a in le esophago in consequentia del relativamente basse pression intrathoracic. Assi le oleo trova accesso al vias aeree in le quales—a causa de su suavitate—illo provoca nulle reflexo de tusse protective. Nostre datos pare indicar que le historeaction al oleo pote remaner negligibile pro varie periodos de tempore. In certe individuos e sub certe conditiones iste reaction pote esser excessive con le resultado que un typic pneumonia lipoide es disveloppate. Nostre datos indica que post que un historeaction a oleo mineral es establite, illo non se resolve. De facto, duo de nostre casos monstrava un clar extension del lesiones e clar signos progredente de consolidation pulmonar a un tempore longemente post le cessation del uso de oleo mineral.

Il es facile non recognoscer le diagnose per medios clinic. Le correcte diagnose depende a un alte grado de un alte indice de suspicion. In casos in que le reaction lipoide es obscurate per un infection terminal, il es possibile non recognoscer lo al autopsia, excepte per studiar microsecciones ab locos de selection fortunate.

Le autores opina que le continue uso oral de oleo mineral in adultos representa un insidioso risco pulmonar. Le extension possibile e le frequentia probabile de iste risco non es generalmente recognoscite.

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## THE DIAGNOSIS OF SARCOIDOSIS WITH SPECIAL REFERENCE TO THE KVEIM REACTION\*†

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BEFORE considering whether a specific diagnostic test for sarcoidosis is available, it is appropriate for us to inquire whether sarcoidosis is a specific disease. Some writers have questioned whether there is such an entity, and have suggested that sarcoidosis is merely a type of histologic response which may be produced by a wide variety of etiologic agents.<sup>1</sup> This point of view has merit: it is worthy of repeated emphasis that many agents—bacterial, viral, fungal, protozoan and mineral—can produce tubercloid tissue changes which may be designated as the *sarcoid reaction*.<sup>2</sup> There is, however, persuasive epidemiologic<sup>3,4</sup> and clinical<sup>5,6</sup> evidence that there is also a disease entity, *sarcoidosis*. In this country at least, most patients with sarcoid lesions appear to represent instances of this disease entity, which is of unknown etiology and is characterized by distinctive anatomic and geographic patterns. The sarcoid reactions resulting from tuberculosis, histoplasmosis, beryllium poisoning or other causes are relatively uncommon in our experience. Nevertheless, the differentiation of sarcoidosis from its innumerable imitators is a constant concern. Treatment with cortisone or ACTH is not infrequently indicated in sarcoidosis,<sup>7</sup> and since the effect of these agents is deleterious in certain of the diseases with which sarcoidosis may be confused, the desirability of an accurate and reliable means of diagnosis is evident.

It does not suffice to base the diagnosis on the evidence of a biopsy specimen alone, even when it demonstrates characteristic discrete epithelioid tubercles, approximately equal in size, with minimal necrosis, often with Schaumann's bodies. This appearance may be encountered in true sarcoidosis, in certain systemic diseases and as a local reaction.

Among the instances of local sarcoid reactions without systemic involvement may be cited the cutaneous granulomas which result from implantation of quartz,<sup>8</sup> beryllium<sup>9</sup> and shrapnel.<sup>10</sup> Another example of the local sarcoid reaction is that occasionally encountered in regional lymph nodes adjacent to a neoplasm.<sup>11</sup>

The list of systemic diseases which may show sarcoid lesions is a long one, and includes tuberculosis, histoplasmosis and beryllium poisoning, as

\* Presented at the Thirty-sixth Annual Session of the American College of Physicians, Philadelphia, Pennsylvania, April 27, 1955.

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† These studies have been supported by a grant (E-331) from the National Institutes of Health, Public Health Service.

well as leprosy, syphilis, brucellosis, toxoplasmosis and viral hepatitis.<sup>12</sup> The typical granulomas of these diseases differ in minor respects from the characteristic sarcoid lesion, but the differences are slight, and there is no single pathognomonic feature which can be relied upon to distinguish these various granulomas with certainty. As Danbolt<sup>13</sup> has stated: "The histological examination of suspect tissues can yield valuable evidence in support of the clinical diagnosis, but cannot by itself form the basis for the diagnosis. We must accept with reservation the verdict to be found in many publications that 'the diagnosis was verified by biopsy.'"

Recognition of the lack of specificity of the pathologic features has resulted in increased interest in the Kveim test. A specific skin test would be especially valuable in the numerous cases of suspected sarcoidosis in which tissue for biopsy is not readily available.

#### THE KVEIM REACTION

The first report of a diagnostic skin test for this disease was made in 1935 by Williams and Nickerson,<sup>14</sup> who employed a test material prepared from cutaneous sarcoid lesions by the process used in preparation of Frei antigen. Intracutaneous injection in patients with sarcoidosis resulted 36 to 48 hours later in the appearance of redness and induration which lasted for about a week.

Kveim in 1941 described a skin test employing a similarly prepared antigen. Twelve of 13 patients with sarcoidosis developed reactions which appeared one to four weeks after injection. This test was subsequently investigated by a number of other Scandinavian workers, principally Danbolt,<sup>15</sup> Lomholt<sup>16</sup> and Putkonen,<sup>16</sup> and by American workers, notably Nelson,<sup>17</sup> Siltzbach and Ehrlich<sup>18</sup> and Rogers and Haserick.<sup>19</sup>

The observations of these investigators coincide in many respects but differ in important details. None has noted early tuberculin-type reactions such as those described by Williams and Nickerson. All have observed more often in patients with sarcoidosis than in controls the development of delayed reactions of the type noted by Kveim. The frequency of positive tests in patients with sarcoidosis ranged in these studies from 41% to 92%. Control subjects were often unspecified in number, but were as many as 42 in one study; positive Kveim reactions were observed in "a few" instances by some investigators, and rarely or not at all by others. It would appear from these reports that the test has great diagnostic specificity: false-positive reactions are rare, and false-negative reactions occur chiefly in the "inactive" stage of the disease.

But although most of these investigators come to similar conclusions, it is not on the basis of the same observations. There is an important difference between Scandinavian investigators, who consider gross papule formation evidence of a positive test, and those in this country, who consider histologic demonstration of sarcoid tubercles in the excised biopsy

site an essential part of the test. The latter practice is based on the experience that the criterion of gross papule formation is frequently misleading, since such nodules are apparently not uncommon in non-sarcoid subjects. The introduction of histologic criteria is responsible for other difficulties, however, because it involves the differentiation of a sarcoid response from a foreign-body type of reaction and from nonspecific inflammation.

We were led to investigate the Kveim test by the discrepancy between the reports of those investigators,<sup>18,19</sup> who found the reaction a specific one, and those<sup>18,17</sup> who regarded it as nonspecific. It appeared to us that this test, to have clinical value, must make possible the differentiation of sarcoidosis from the one disease with which clinically and pathologically it is most commonly confused, namely, tuberculosis. Accordingly, in our studies on the Kveim reaction we have for the most part employed control subjects who were ill with tuberculosis and who were comparable in age, sex and race to the subjects with sarcoidosis.<sup>20</sup>

Employing a test material prepared in the usual fashion from cervical lymph nodes of a patient with sarcoidosis, we have completed a total of

TABLE 1  
Results of Kveim Tests in 81 Subjects

Diagnosis	Number of Subjects	Number of Tests	Number of Nodules	Number of Sarcoid Reactions	Percentage of Tests Positive
Sarcoidosis	28	57	31	12	21.1
Tuberculosis	33	33	27	14	42.4
Other control subjects	20	24	11	2	8.3

114 tests in 81 subjects. Palpable nodules were present eight weeks after injection in 31 of 57 tests performed in 28 patients with sarcoidosis. Biopsies of the injection sites demonstrated sarcoid reactions in 12, or 21.1% of the tests performed (table 1).

Thirty-three patients with tuberculosis were similarly tested. Palpable nodules were present in 27 eight weeks after injection, and biopsies of these nodules, as well as of two injection sites where pigmentation was present, demonstrated sarcoid reactions in 14, or 42.4%. The tuberculous patients included 22 Negroes and 11 whites. The frequency of nodules and of positive histologic reactions was slightly higher in the white than in the Negro patients.

Twenty additional control subjects, consisting of six patients with allergic disorders, four with latent syphilis, one with Hodgkin's disease, one with idiopathic pulmonary fibrosis, and nine apparently healthy subjects, were tested with the same material. A total of 24 tests were made. Palpable nodules resulted in 11 instances. Biopsies demonstrated sarcoid reactions in two, or 8.3% of the tests performed.

We have had a limited experience with other test materials which we have prepared or secured from others. The results have been of a similar order in patients with sarcoidosis, but the frequency of positive tests in tuberculous patients has been lower with other preparations.

A number of factors deserve analysis in an effort to explain our inability to confirm the diagnostic value of the Kveim reaction.

*Patients and Control Subjects:* The patients with sarcoidosis comprised 27 Negroes and one white. This distribution is similar to that of groups studied by other American investigators, but it should be noted that Scandinavian studies are confined to white subjects. Putkonen<sup>16</sup> observed that patients with cutaneous sarcoidosis reacted to Kveim material more often than those without skin lesions. Only three of our patients had cutaneous sarcoidosis; of 42 patients tested by Putkonen, all but four had skin lesions. If involvement of the skin indicates a greater sensitivity to Kveim material, it may explain the more favorable experiences which dermatologists report with this test.

The tuberculous subjects tested by us were hospital or sanatorium patients with advanced disease receiving antimicrobial chemotherapy. Few were febrile or toxic, but many were sputum-positive. Other studies of the Kveim reaction have included relatively few tuberculous subjects, although Siltzbach and Ehrlich tested 16 patients with active tuberculosis and obtained only a single positive reaction.

*Potency of Test Material:* Our suspension was prepared from lymph node tissue obtained from one individual with sarcoidosis. The relatively small percentage of patients with sarcoidosis who gave positive tests could be attributed to some deficiency in the test material which we had prepared. The frequent occurrence of typical reactions in patients with tuberculosis is difficult to explain on any hypothesis which regards the reaction as specific.

*Histologic Interpretation of the Kveim Reaction:* American investigators have insisted upon the need for demonstrating a specific sarcoid histologic appearance in biopsy specimens taken six to eight weeks after injection of the test material. Although experienced pathologists consider that sarcoid granulomas can be distinguished from foreign body granulomas, it should be recognized that, as Refvem<sup>8</sup> has pointed out, the fibroblasts and mesothelial cells which characterize the foreign body reaction may be mistaken for the epithelioid cells which distinguish the sarcoid granuloma. Attention should be called to the fact that histologic interpretation in our cases was made by an experienced dermatologic pathologist without knowledge of the clinical findings or diagnosis. It is probable that differences in histologic interpretation are an important factor in explaining the discrepancies between our results and those of others.

Whatever the factors responsible for the divergent results of various investigations of this reaction, it appears to us that clinical use of the Kveim test is not justified until further critical studies establish its validity in distinguishing sarcoidosis from tuberculosis and other granulomatous diseases.



## NATURE OF THE KVEIM REACTION

The test material is ordinarily prepared from lymph nodes from a patient with typical sarcoidosis, or pooled nodes from several patients may be used. These are ground in a mortar, with or without sand, and diluted with nine parts by weight of physiologic saline solution. The mixture is strained through eight to 10 layers of wet gauze by some investigators, whereas the larger particles are allowed to settle and are discarded by other workers. In either case the final preparation is a rather thick, pink, milky suspension which comprises pulp, stroma, blood, blood vessels, nerves and adipose tissue.

There is much evidence of the variability of testing materials produced in this fashion. Siltzbach and Ehrlich<sup>18</sup> employed suspensions made from lymph nodes or spleens of patients with sarcoidosis. Five preparations proved inert, whereas 10 were potent, but not equally so, for some suspensions evoked strong reactions, while with others reactions were weak and less predictable. Whether the variability is due to differences in preparation or in the tissues employed is not certain. Putkonen<sup>16</sup> reported that preparations made from three different nodes from a single patient at different times were equally potent, but he also observed that marked variations existed in the potency of preparations made from different organs of the same patient. It is noteworthy that he obtained a potent test material from tonsils which showed no sarcoid lesions.

An important controversial point is whether positive Kveim reactions can be elicited with test materials which come from a non-sarcoid source. Lomholt<sup>15</sup> obtained positive tests with a suspension of leukemic gland, and Putkonen<sup>16</sup> prepared potent material from lymph nodes of patients with lymphatic leukemia and tuberculous cervical adenitis. Nelson<sup>17</sup> employed a suspension of normal splenic tissue and obtained nodules similar to those secured with Kveim material. However, Danbolt,<sup>18</sup> Siltzbach and Ehrlich<sup>18</sup> and Rogers and Haserick<sup>19</sup> could not confirm this particular observation. Warfvinge<sup>21</sup> and Nelson<sup>17</sup> observed positive tests in sarcoidosis patients following the injection of BCG. Billings and Shapiro<sup>22</sup> observed a sarcoid lesion at the site of a tuberculin reaction, and we have demonstrated typical sarcoid responses on biopsy of the sites of tuberculin reactions in tuberculous subjects.<sup>23</sup>

A recent observation of interest is that of McGovern and his associates.<sup>24</sup> Studying cat scratch antigen, they noted in a number of instances a reaction which, in its delayed appearance, resembled the behavior of a positive Kveim test.

There are additional obstacles to accepting this test as an allergic response in the ordinary sense of a specific reaction of antibody and antigen proteins, one being the fact that the test material retains its potency after boiling for 20 minutes.<sup>16</sup> The long latent period before appearance of the Kveim reaction is also difficult to explain on the basis of a specific hypersensitivity response.<sup>1, 17</sup> Admittedly, the Kveim test is frequently negative

in patients whose symptoms have subsided and who are regarded as having "inactive" sarcoidosis. This, too, is contrary to the usual behavior of allergic tests, which ordinarily remain positive long after clinical manifestations disappear.

This evidence suffices to cast doubt on the allergic nature of this test, and leads to consideration of the theory that the Kveim reaction occurs merely as the result of introduction of nonspecific irritants into subjects who (because they have sarcoidosis) exhibit a characteristic response. Of special interest in this regard are several observations made by Refvem, who has recently reported extensive investigations on the nature of the sarcoid reaction.<sup>8</sup> Local sarcoid granulomas resulting from accidental cutaneous implantation of quartz were observed in two patients with sarcoidosis. The reaction to the quartz was not more florid or vigorous in these patients than in normal persons. Quartz granulomas experimentally produced by intracutaneous injection were also equal in size and character in patients with sarcoidosis and in control subjects. Thus, there was in these cases nothing to substantiate the theory that patients with sarcoidosis are especially prone to manifest the sarcoid reaction. Talc granulomas were experimentally produced in subjects with sarcoidosis and in healthy controls. In both groups the granulomas were of the foreign body type. It is interesting that one patient who had both a quartz and a talc granuloma was treated with cortisone. There was a marked reduction in size of the sarcoid granuloma while the foreign body granuloma was unaffected.

These observations provide strong evidence that the Kveim reaction is not the result of an atypical response of patients with sarcoidosis to nonspecific irritants. Rather, it appears that the sarcoid reaction will be elicited in normal subjects as well as in patients with sarcoidosis by a variety of irritants, which include such diverse materials as BCG vaccine, quartz, and tissues both diseased and healthy. The substances responsible for the sarcoid pattern of reaction appear to be phospholipids,<sup>8</sup> which may be introduced from without or may be released in the body in response to certain types of injury.

Despite the weak theoretic basis of the Kveim test and its inconstant behavior in the studies we have performed, it cannot be denied that an impressive number of Scandinavian and American authorities have testified to its specificity. However, American investigators who have described successful application of this test experience considerable difficulty in maintaining a supply of "potent" testing material, and are rarely in a position to spare material for attempts at standardization of other preparations, or for comparative studies. One would expect from Scandinavian reports that the Kveim test is widely available and widely used in these countries. Communications from a number of Scandinavian investigators,<sup>25</sup> however, indicate that this is not the case. Some have abandoned use of the test because of its doubtful specificity.

An additional objection to the clinical application of this test is the temptation to employ the Kveim reaction as a substitute for biopsy procedures. This practice is probably responsible for some instances of tuberculosis following cortisone treatment of sarcoidosis. In several of the cases which have been described, tuberculosis made its appearance so quickly that it seems almost certain that the original diagnosis of sarcoidosis was in error, and that actually instances of tuberculosis had been treated. In one such report it is stated that the diagnosis of sarcoidosis was "proven either by tissue biopsy or a positive Kveim reaction."<sup>20</sup>

We would like to suggest that the Kveim reaction deserves much less emphasis as a diagnostic procedure and more attention as an immunologic phenomenon. The importance of this reaction rests in the very arguments which have been advanced to show that it is neither an ordinary allergic reaction nor a foreign body reaction. The Kveim reaction appears to be unique in its delayed onset and long persistence; whether in patients with sarcoidosis or in others, the Kveim reaction appears to represent a type of chronic granulomatous tissue response which is worthy of intensive investigation.

#### THE DIAGNOSIS OF SARCOIDOSIS

Although the presence of sarcoidosis cannot be *proved* by histologic evidence or by the Kveim test, the diagnosis can be made with assurance when consistent clinical, laboratory and roentgenologic findings support the histologic evidence.

It might be inferred, in view of the lack of specificity of the histologic appearance, that biopsy is a useless procedure. On the contrary, we believe that histologic study is essential to the diagnosis of sarcoidosis. The difficulties and errors in diagnosis which may occur when pathologic studies have been carried out are multiplied when one attempts to make the diagnosis without such studies. Histologic study is only a part of the evidence on which the diagnosis of sarcoidosis is based, but it is an essential part. Moreover, the excised tissue provides an opportunity for bacteriologic, mycologic and chemical examinations. Careful study of sections stained with Ziehl-Neelson and Hotchkiss-McManus technics may establish the presence of tuberculosis<sup>27</sup> or fungal disease<sup>28</sup> in tissues that might otherwise be regarded as characteristic of sarcoidosis. Spectrographic analysis of lung biopsy specimens is indicated in patients whose occupational or residential history suggests exposure to beryllium.

*Biopsy Procedures:* When cutaneous lesions are present or peripheral lymphadenopathy is detected, tissue for biopsy is readily available. It should be emphasized that the smallest of palpable lymph nodes is adequate for this purpose: lymph nodes of a size that would be insignificant in other diseases will frequently demonstrate a sarcoid reaction. In more than half of the patients we have observed, however, physical examination discloses no cutaneous lesions or palpable lymph nodes. Under these circumstances,

several means may be utilized to procure tissue for study. Needle aspiration biopsy of the liver is a useful method, affording positive results in a high proportion of patients with sarcoidosis. Liver biopsies have been performed in a number of our patients.<sup>29</sup> Thirteen had previously had lymph node biopsies. In three the lymph nodes had been negative; two of these showed sarcoid lesions in the liver. Ten patients had had positive lymph node biopsies; in six, the liver biopsy also showed sarcoid tubercles. In eight additional patients in whom biopsy had not been previously attempted because of the unavailability of lymph nodes, sarcoid lesions were observed in each instance.

Biopsy of the gastrocnemius muscle as described by Myers and his associates<sup>30</sup> has in our experience been valuable principally in patients with arthritic manifestations.

Scalenus fat pad biopsy will frequently yield small nodes that show a sarcoid structure.<sup>31</sup> This appears to us a useful method in the patient with mediastinal lymph node enlargement but no pulmonary infiltration.

When disseminated pulmonary lesions are roentgenologically demonstrable, the most satisfactory method in our experience is the closed inter-

TABLE 2  
Sources of Positive Biopsies in Patients Diagnosed as Sarcoidosis, 1936-1955

	Peripheral Lymph Node	Skin	Liver	Lung	Miscellaneous
1936-1948	29	12	0	0	0
1949-1951	18	2	9	2	6
1952-1955	20	5	4	14	3

costal pulmonary biopsy, of the type described by Klassen.<sup>32</sup> This procedure has in only a single instance been misleading, disclosing nonspecific inflammatory lesions in a patient who subsequently proved to have sarcoidosis. The procedure can be carried out under local or Pentothal anesthesia, produces no more discomfort than excision of an axillary lymph node, and appears less disturbing to the patient than a scalene fat pad biopsy. Our increasing use of pulmonary biopsy is indicated in table 2.

*Laboratory Studies:* The tuberculin test is of value in the diagnosis of sarcoidosis. Every study of the tuberculin reaction in sarcoidosis has yielded almost identical results. Approximately 65% of patients with this disease fail to react to second-strength tuberculin (0.005 mg. PPD or 1.0 mg. OT). Approximately 30% react only to second-strength tuberculin, and 5% to first-strength tuberculin (0.00002 mg. PPD or 0.01 mg. OT). The striking uniformity of the results of numerous studies in this country and Europe provides strong evidence that sarcoidosis is a disease entity, with identical characteristics here and abroad.

Increased serum globulin concentrations are found in two thirds of patients with sarcoidosis. Electrophoretic studies show the increase to be

chiefly in the gamma globulin fraction. The availability of paper electrophoresis methods should permit further investigation of the value of serum gamma globulin fractionation in the differential diagnosis of the granulomatous disorders.

Elevated serum calcium levels have been infrequently observed in our patients, but demonstration of hypercalcemia is important since it is rarely observed in other granulomatous or infectious diseases.

*Clinical Features:* Of greater importance than laboratory tests in the diagnosis of sarcoidosis is the recognition of the characteristic patterns of organ involvement in this disease. Certain organs commonly affected in sarcoidosis are rarely involved by tuberculosis and the other granulomatous diseases: skin, bones of hands and feet, the lacrimal and parotid glands, the liver and spleen and the heart.

Cutaneous lesions occur in 10 to 20% of patients with sarcoidosis;<sup>6</sup> cutaneous tuberculosis is extremely rare in the United States. Erythema nodosum is in this country more often associated with sarcoidosis and coccidioidomycosis than tuberculosis. Lofgren<sup>33</sup> studied 58 cases of erythema nodosum in Stockholm in 1948 and 1949. Whereas formerly a tuberculous etiology was demonstrable in a majority of cases of erythema nodosum in Sweden, in the 1948-49 study 39.7% were due to sarcoidosis and only 17.2% to tuberculosis.

We have recently studied the frequency of osseous lesions by a review of roentgenograms of the hands and feet of 77 patients with sarcoidosis. Characteristic changes were observed in 17.3%.<sup>33</sup> Although the abnormalities are not pathognomonic of sarcoidosis, the bones of the hands and feet are rarely involved in other granulomatous diseases, and demonstration of such involvement is useful in supporting the diagnosis of sarcoidosis.

Involvement of the lacrimal or parotid glands does not occur in tuberculosis, histoplasmosis and berylliosis; hence the demonstration of sarcoid lesions in these glands leaves little doubt as to the diagnosis of sarcoidosis. Hepatomegaly and splenomegaly are much more common in sarcoidosis than in the other diseases with which we are concerned, but it should be emphasized that in liver biopsy specimens epithelioid tubercles may be due to miliary tuberculosis, brucellosis and even viral hepatitis.<sup>12</sup>

Myocardial tuberculosis is rare, but sarcoidosis of the heart manifested by congestive failure or arrhythmias is not uncommon. Cor pulmonale is of course much more common, and may occur in sarcoidosis as well as in other chronic fibrotic pulmonary diseases.

Ocular involvement, particularly iritis and uveitis, is recognized in a third or more of patients with sarcoidosis,<sup>6</sup> but tuberculosis, histoplasmosis and toxoplasmosis may be responsible for similar lesions. Ocular lesions, however, have not been described in berylliosis.

Marked enlargement of the mediastinal or hilar lymph nodes is very common in sarcoidosis, is less often encountered in histoplasmosis, and

rarely occurs in adults as a result of tuberculosis. Atypical forms of tuberculosis with mediastinal lymphadenopathy do occur in adults, however, and since these atypical instances may be associated with tuberculin hypergy,<sup>35</sup> their differentiation from sarcoidosis is most difficult.

Finally, attention should be called to certain syndromes which, although uncommon, may be regarded as indicative of sarcoidosis rather than of the other granulomatous diseases. These include: diabetes insipidus,<sup>36</sup> panhypopituitarism,<sup>36</sup> disseminated central nervous system involvement,<sup>37</sup> nephrocalcinosis and hypercalcemia<sup>38</sup> and polyarthritis and myositis.<sup>30</sup>

It is unusual, on the other hand, for the pleura, pericardium, peritoneum and adrenal glands, common sites of tuberculosis, to be affected in sarcoidosis. Serositis with effusion is extraordinarily rare in sarcoidosis. Peritoneal biopsies which show epithelioid tubercles have in our experience invariably proved to represent tuberculous peritonitis rather than sarcoidosis. Pericardial effusion has not been encountered in sarcoidosis. Pleural effusion is rare in sarcoidosis, and its presence should be regarded as evidence of tuberculosis until exhaustive bacteriologic study is completed. We have encountered one instance of massive pleural effusion in which a tuberculous etiology was apparently excluded by careful study, including pleural biopsy. This does not prove that the effusion was due to sarcoidosis; other causes of effusion may have been responsible.

Adrenal insufficiency is rarely if ever due to sarcoidosis. Ricker and Clark<sup>39</sup> described several instances of extensive sarcoid involvement of the adrenal glands; subsequent review of these cases demonstrated histoplasmosis.<sup>29, 36</sup> Histoplasmosis is especially prone to involve the adrenal glands, as well as the larynx and the oral mucosa.

Draining sinuses have not been encountered in uncomplicated sarcoidosis. Their presence is strongly suggestive of tuberculous or fungal infection.

We have recapitulated below the findings which support a diagnosis of sarcoidosis. The greater the number present in a given case, the greater is the confidence with which the diagnosis may be made:

- Epithelioid tubercles in a biopsy specimen
- Negative tuberculin reaction
- Hyperglobulinemia
- Hypercalcemia
- Involvement of
  - mediastinal lymph nodes
  - eyes
  - skin, including erythema nodosum
  - bones of hands and feet
  - liver and spleen
  - lacrimal or parotid glands
  - heart
  - pituitary gland



The presence of any of the following findings calls for extra caution and special investigation before the diagnosis of sarcoidosis is accepted:

- Pleurisy with effusion
- Pericarditis or peritonitis
- Draining sinuses
- Adrenal insufficiency
- Oral or laryngeal ulcers
- Strongly positive tuberculin reaction
- History of exposure to beryllium
- Positive histoplasmin test or serologic tests for histoplasmosis

#### SUMMARY

1. The diagnosis of sarcoidosis cannot be "proved" by biopsy. The finding of sarcoid tubercles in isolated tissue does not establish the presence of systemic sarcoidosis. Although sarcoidosis exhibits a characteristic histologic picture, its differentiation by pathologic study from some types of tuberculosis as well as from histoplasmosis and berylliosis is not always possible.

2. The Kveim test cannot be relied upon in its present form to establish the diagnosis of sarcoidosis. Despite many reports of the specificity of this test, in our experience the test has been frequently positive in patients with tuberculosis, and frequently negative in patients with sarcoidosis. Until reliable methods for standardization of the test material are developed, this reaction should not be employed as a diagnostic test.

3. The Kveim reaction merits further investigation as an immunologic phenomenon. It does not appear to be a specific allergic response, nor is it a characteristic tissue reaction of patients with sarcoidosis to nonspecific irritants.

4. Until the etiology of this disease is determined and a truly specific test thus made possible, the diagnosis of sarcoidosis will require:

Demonstration of a consistent histologic picture.

Demonstration of involvement of organs or tissues characteristically affected.

Exclusion by all available methods of the diseases (especially tuberculosis, histoplasmosis, berylliosis) which simulate sarcoidosis.

#### ACKNOWLEDGMENT

The authors are indebted to Dr. Joseph D. Aronson, of the Henry Phipps Institute, University of Pennsylvania, for the preparation of the Kveim testing materials, and to Dr. Herman Beerman and Dr. Raymond Krain, of the Department of Dermatology, Graduate School of Medicine, for histologic interpretation of the biopsy specimens.

#### SUMMARIO IN INTERLINGUA

Numerose agentes—bacterial, viral, fungal, protozoic, e mineral—produce tuberculoide histioalterationes que pote esser designate como *reactiones sarcoide*, sed

il existe potente indicationes epidemiologic e clinic que il ha etiam un entitate morbose que pote appellar se *sarcoidosis*. Le majoritate del patientes con lesiones sarcoide representa apparentemente casos de iste entitate morbose que ha un etiologia incognoscite e que es characterisate per specific aspectos anatomic e geographic. Nonobstante, il es frequentemente difficile differentiar inter sarcoidosis e tuberculosis, histoplasmosis, toxicosis a beryllium, e le numerose altere imitatores de sarcoidosis. Proque iste diverse disordines granulomatose exhibi un grande resimilantia sub le studio pathologic, le diagnose de sarcoidosis non es possibile super le base de un biopsia sol.

Ha essite reportate que le reaction de Kveim permette le differentiation inter sarcoidosis e le mentionate altere morbos. Pro esser de valor clinic le methodo debe render possibile le differentiation inter sarcoidosis e tuberculosis, proque tuberculosis es precisamente le morbo con que sarcoidosis es le plus frequentemente confundite, tanto clinica- como etiam pathologicamente. Per consequente nos ha applicate le test de Kveim a 28 patientes con sarcoidosis e a 33 patientes de tuberculosis e 20 altere individuos como grupos de controlo. Nos empleava le demonstration biopict de un reaction sarcoide como criterio de positivitate e trovava que le reaction de Kveim esseva plus frequentemente positive in patientes de tuberculosis (42,4 pro cento) que in patientes de sarcoidosis (21,1 pro cento).

Le discrepantia inter nostre observationes e le observationes de altere autores es possibilmente le resultado de nostre selection de patientes con tuberculosis como gruppo de controlo, de deficientias in nostre materiales, o del difficultates que es characteristic del interpretation histologic del reaction de Kveim. In omne caso, nos opina que le uso clinic del reaction de Kveim non es justificabile usque studios additional establi su validitate in le differentiation de sarcoidosis ab tuberculosis e usque methodos es disveloppate pro le standardisation del material.

Un revista del datos publicate indica que le reaction de Kveim es ni un specific responsa de hypersensibilitate ni un characteristic responsa a non-specific irritations in patientes de sarcoidosis. Investigationes additional del reaction de Kveim como fenomeno immunologic es indicate.

Ben que le presentia de sarcoidosis non pote esser *provate* super le base de datos histologic o per medio del reaction de Kveim, le diagnose pote esser establite con assecurantia si le evidentia histologic es supportate per indubitose constataciones clinic, laboratorial, e roentgenologic.

Usque le etiologia del morbo es determinate e usque assi un reaction de character genuinmente specific deveni possibile, le diagnose de sarcoidosis require:

1. Le demonstration de un situation histologic inequivoc. (Biopsias pulmonar intercostal se ha provate le plus utile pro iste objectivo.)

2. Le demonstration del involvimento de organos o textos que exhibi un affection characteristic. Le partes communmente involvite in sarcoidosis es le nodos lymphatic mediastinal, le oculos, le pelle (includente erythema nodose), ossos del manos e pedes, le hepate e le splen, le glandulas lacrimal e parotide, le corde, e le glandula pituitari. Conditiones raramente debite a sarcoidosis es pleuritis con effusion, pericarditis, peritonitis, sinusos fluente, e insufficiencia adrenal.

3. Exclusion per omne disponibile methodos del morbos que simula sarcoidosis, specialmente tuberculosis, histoplasmosis, e berylliosis.

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## THE RÔLE OF THE PSYCHE IN ALLERGIC DISEASE \*

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### INTRODUCTION

In their textbook, *Psychosomatic Medicine*, Weiss and English<sup>1</sup> state: "Allergy and psychosomatic medicine have much in common. The allergic population and the neurotic population are so numerous that they must overlap. Therefore, if for no other reason, these disorders exist together in many people." In private practice and in clinics we find these statements to be true. We are called upon to treat neurotic allergics and allergic neurotics. In many cases there is clear evidence of more than just "overlapping." There is evidence of direct influence of psychogenic factors on the allergic state itself. The average allergist, however, has been reluctant to delve deeper into the actual rôle that the psyche may play, although he has accepted what has been known since ancient days; that emotional disturbances affect or even precipitate attacks of asthma or hay fever.

As the allergist developed the immunology of allergy, the rôle of the psyche was forced into the background. A good many allergists now hold the opinion that where a patient gives evidence of definite positive skin reactions which coincide with his clinical manifestations, that patient is definitely allergic and the psyche can play no part in his symptoms. In an attempt to discredit the rôle of the psyche in allergic disease, a competent allergist recently stated that the incidence of allergic disease was much lower among patients in mental institutions than in the general population. This fact, he argued, proved that the psyche played no part in causing allergic manifestations. On the contrary, it seemed to me that this was a good argument in favor of the influence of the psyche. People in mental institutions generally are psychotic and, as such, have escaped from the frustrations and the inhibitions which may have plagued them. They have retired into a world of their own where they are adjusted and less likely to suffer from psychosomatic illness. Weiss and English<sup>1</sup> partly support this interpretation by stating that, although psychotic patients may show functional disorders of the skin and abnormalities in posture, there is "some rather loose evidence suggesting that among sufferers from the psychoses, certain common psychosomatic affections such as peptic ulcer, rheumatoid arthritis and fibrositis are relatively rare." To point out further the reluctance on the part of some allergists to look into the psyche, Abramson<sup>2</sup> stated that up to the period 1936-1946 the *Journal of Psycho-*

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*somatic Medicine* had 20 papers relating to the emotional problem in the allergic state, whereas, in the *Journal of Allergy*, in the same period, only one brief report appeared on the same topic.

Notwithstanding the above prejudices, there has been in recent years a steadily increasing interest on the part of allergists in the rôle of the psyche in allergic disease. At the same time we find that psychiatrists also are beginning to accept the fact that there is such a thing as allergy, from the immunologic standpoint, which can be affected by rather than entirely produced by psychogenic factors. Numerous articles are now appearing on the psychodynamics of allergic disease, and psychiatrists such as Wilson<sup>3</sup> have agreed that, although psychosexual maladjustments may make a nose more sensitive to pollens, an external agent such as pollen may produce an attack, and local sensitivity alone, in the absence of psychologic stimulation, may be sufficient to produce an attack. Here at last we see evidence of a new approach to the patient with allergic disease. This approach, if practiced by the allergist, will yield better results than he has had heretofore in the treatment of many of his patients.

It is the purpose of this paper to attempt a classification of the patients who may present themselves for allergic evaluation and treatment. I will also discuss the possible influence of the psyche in each category. This discussion will be supported by case histories from my files and from reports which have appeared in the literature.

#### THE ATOPIC PATIENT

The atopic patient is the one who has true allergic disease from the immunologic standpoint. He is the patient who will give good positive whealing reactions when skin-tested with various allergens. Passive transfer tests performed according to the method of Prausnitz and Küstner will demonstrate that this patient has circulating specific skin sensitizing antibodies (reagins) in his blood. Generally speaking, then, this is the patient with the seasonal hay fever, or the dust, feather, dog hair or other inhalant-induced asthma, or the dermatitis due to inhalants or foods, or several other less frequently encountered clinical varieties. These are the patients who, for the most part, are benefited by a program of elimination, avoidance and hyposensitization. These, too, are the patients who will generally be treated in a stereotyped manner from an allergic viewpoint. The possibility that the psyche may play a part in the causation of symptoms in these patients is, as I have pointed out earlier, completely rejected by a good many allergists and internists.

What, then, is the rôle of the psyche in this individual who has all the features of true allergic disease, immunologically and otherwise? I should like to dispense first with what are referred to as aggravating or precipitating factors, which do not figure basically as causative factors as far as the psychodynamics of allergic disease are concerned. I refer to such things



as an argument or other emotional upset which may merely serve as a push to an asthmatic or a hay fever sufferer who is, so to speak, sitting on the fence as far as his illness is concerned. He is in an allergic state constitutionally, but the physical status may be just short of that which is productive of symptoms. An emotional upset may either lower his quantitative sensitivity or in itself cause increased congestion of tissues so that symptoms will be precipitated. This factor has long been accepted and is not startling. But what is the influence, if any, of the more deeply suppressed emotions? What part is played by the inhibitions, the frustrations, the psychosexual maladjustments on the actual initiating of the allergic mechanism? Before proceeding further with this discussion I will present several case histories which will perhaps act as a springboard from which to plunge into the veritable sea of theories which concern the rôle of the psyche in allergic disease.

#### CASE REPORTS

*Case 1.* This boy first came to me in June, 1939, at the age of 14 years. His chief complaint was "wheezing." The story was that he had begun to have wheezing and shortness of breath at two weeks of age. These symptoms continued from that time on. In 1931 the family moved to the seashore and he remained well for the four years that they lived there. In 1935 they moved back to the Philadelphia area and from then on, every year, beginning in June and persisting through October, he was troubled with wheezing, blocked nose, lacrimation and itching of the eyes and nose. The maternal great-grandfather had had asthma. Other than that there was no familial history of allergic disease except that some years later a younger brother developed grass and ragweed hay fever. Physical examination at the time of his first visit revealed wheezes on forced expiration.

Intradermal skin testing revealed marked positive reactions to ragweed, mixed grasses, English plantain, late trees, house dust, feathers, and some foods which did not seem to produce symptoms. Hyposensitization therapy was instituted and a program outlined for maximal avoidance of house dust and feathers. During the summer of 1939 he had quite a bit of asthma, but during the month of September and from then on he remained quite well. On several occasions he had some asthma associated with an acute upper respiratory infection. Hyposensitization therapy was continued on a perennial basis. In June, 1940, he had an asthmatic attack following a hay ride. Other than that he had a very good season in 1940, with very few symptoms. On December 10, 1940, he visited a farm and played in the hay loft. He developed asthma which lasted for several days. On December 28 he again visited the farm and went into the barn but did not go into the hay loft. That night he began to wheeze again, and he continued to have wheezing until January 7, 1941, when I saw him in the office. On questioning him I found that he had brought home a burlap bag full of hay for his dog to sleep on. He played with the dog every day. I mention these incidents to point out the definite allergy to pollen which must have existed, since he developed symptoms out of his season when he was exposed to the hay, which probably contained considerable dry pollen. He got rid of the hay and gave the dog a bath, and his wheezing stopped.

During the spring of 1941 he began to get constitutional reactions following injections. This had never happened before. His 1941 season was not as good as the previous one. He noted pretty definitely that he would be quite well when out-of-doors but on entering the house would begin to feel choked up. He had considerable asthma until the end of October, when it was discovered that he was

sleeping with a feather comforter. This was taken away and by the end of November he was feeling much better. His 1942 season was only fair, and in May, 1943, he entered military service. He had been doing very well in college scholastically and was growing up to be a fine young man. He wanted to be a pilot and so said nothing about his asthma during his interview. He was accepted and went on to get his wings. Subsequently he flew on bombing missions over France and Germany, and later flew transport planes until he left the service in early 1946.

At no time while he was in military service did this boy have any signs of hay fever or asthma. He trained for months in the United States in heavy pollen areas during the pollen season. He was stationed at bases in England during the grass pollination season. He had no treatment and had no symptoms. It was my impression at first that it was his intense desire to be a pilot which somehow had suppressed his symptoms. This may have been so, but I was later to feel inclined to believe otherwise.

During the summer and fall of 1946, his first pollen season at home, all of his symptoms returned. In early 1947 I retested him, found essentially the same sensitivities, and reinstituted hyposensitization therapy. The summer and fall of 1947 were not too good for him. He had quite a bit of asthma and quite a few constitutional reactions. His 1948 season was fair. During the early summer of 1949 he again had quite a few constitutional reactions, so that his dosage was cut back considerably.

During July, 1949, while I was on vacation not too far from home, I received a telephone call informing me that this patient's father had attempted suicide and had been hospitalized. I returned home because I felt rather close to the family and was quite shocked at the news. I could not imagine why he had done such a thing. They had always impressed me as being a very happy family, and the father seemed to be quite successful in business. However, on returning home I learned from my patient that his father had spent money far beyond what he had earned, and that he had borrowed until it was impossible for him to pay his debts. He had been pressed by the men from whom he had borrowed until finally he had signed over all of his life insurance and then had attempted suicide by taking a large dose of a barbiturate. It appeared that my patient had known of this situation since its very beginning. It had been going on for quite a few years, and the boy felt very bitter toward the father because of it. During the father's convalescence the boy seemed much more concerned about his mother and her welfare than he did about his father. He seemed to feel that his father had not been fair to the mother and the other children.

During the fall of 1949 my patient felt much better and had fewer constitutional reactions. In the spring of 1950 the father again tried suicide. Again he was unsuccessful. Shortly thereafter he was offered a business opportunity in another state and accepted it. Both parents left, but my patient stayed on because he had a good job and felt independent enough to live by himself. A younger brother took over the father's business, but my patient would have nothing to do with it, even though it presented a good opportunity. His resentment must have been very great indeed.

During the summer and fall of 1950 my patient had hardly any symptoms at all. He has never again had a constitutional reaction, although his dosage was increased considerably. Up to and including the 1954 season the patient has been practically symptom-free. He still comes in for his injections once a month (sometimes he forgets and is several weeks late), but he is reluctant to stop, even though we have discussed the possible rôle of the psyche in his case. He admits that his freedom from symptoms while he was in the Air Force may have been due to the fact that he was away from home. He is now married and very happy. He does not admit to being bitter toward his father any more, although the one occasion on which he

had some asthma was just before his wedding, in the latter part of August, when his parents were in town. Whether this was due to the presence of the parents or the tension preceding the wedding is hard to say, but it was in the ragweed season.

*Comment:* In summary, then, we have here a case of true allergy as manifested by positive skin reactions, constitutional reactions, and symptoms on exposure to pollen outside of the season. There is, however, evidence of complete or almost complete absence of symptoms, even in the presence of the offending pollens, when on two occasions the patient was removed from an environment to which he was obviously hostile. While he remained in that environment his sensitivity to the pollens was so great that he had frequent constitutional reactions and his results from treatment were fair. As soon as the domestic situation was brought into the open, with the father's attempted suicide, the constitutional reactions stopped occurring, and after both parents left town the patient had almost complete relief of his symptoms. I do not believe that this is entirely due to hyposensitization treatment—I wonder if it is in *any* part due to hyposensitization treatment.

*Case 2.* This 46 year old man came to see me because of a severe dermatitis of his right hand. He has been a baker for approximately 29 years. Ten years before I first saw him he had developed conjunctivitis, sneezing, rhinorrhea, cough, dyspnea and wheezing. He was seen by an allergist, skin tested and found sensitive to feathers, house dust and rye. It was felt at that time that his symptoms were due primarily to inhalation of rye flour. Hyposensitization therapy was instituted with rye extract, and he was told to wear a mask when working with rye flour. His symptoms cleared up nicely on this program. On one occasion, following an injection of rye extract, he experienced a severe constitutional reaction. On several occasions when he did not wear his mask he developed the same symptoms when he worked with rye flour. He subsequently discontinued treatment but avoided working with rye flour, and he had no further recurrences of his respiratory allergy.

Four months before I saw the patient he first noted the onset of a weeping, itching dermatitis on his right hand. If he stopped work for a week the eruption would completely disappear. When he returned to his work the eruption would recur. He was still avoiding contact with rye flour. The wearing of rubber gloves only made the dermatitis worse. Patch tests with rye, wheat, egg and other substances with which he came into contact were all entirely negative. Intradermal testing, however, yielded marked whealing reactions to barley, wheat, rye and mixed grass pollen.

It was my impression that this was not a contact dermatitis but an allergic dermatitis due to inhalants. The skin of his right hand had probably been particularly sensitized, and reacted as the shock organ when the allergen was inhaled. I prevailed upon him to wear a mask for about a week. The dermatitis improved remarkably in spite of the fact that he continued to work every day.

Since the patient objected very much to the wearing of the mask, hyposensitization therapy was instituted with a mixture of rye and wheat extract. It was my feeling that, even though he avoided working with rye flour, it was inevitable that he inhale some of it during the course of his working day or night. Local treatment with soothing applications was also employed. After two months of treatment there was definite improvement. At this time it became apparent that, frequently on a Monday morning, his dermatitis was worse, even though he had not been in the bakery over the week-end. This seemed inconsistent with the fact that previously, when the dermatitis was bad, his skin had cleared when he was away from

the shop. I therefore questioned him about any possible emotional disturbances that might occur over the week-end. The patient, surprisingly enough, immediately admitted that he was subjected to considerable aggravation over the week-end, and further stated that he had often wondered whether his dermatitis was due entirely to "nerves." I explained to him that he was definitely allergic but it was true that emotional factors could influence the sensitivity state. He then proceeded to tell me the following story, and I shall quote him as accurately as I can: "About six months before this rash started on my hand, my sister-in-law, my wife's sister, came to live with us. At that time I had my own bake shop. This sister-in-law does not like me and she tried to break up my marriage. She always told my wife that she was too good for me. Besides that, the two of them were always sending money and food to relatives in Germany. It got so bad that I was losing money, and I was so mad that if it were not for our baby I would have left my wife. Finally, I got so mad that I sold my shop with the house and I got a job working for another baker. I told my wife that her sister could not live with us any more, and we rented an apartment so there would not be room for her. The baker that I work for is not very nice to me, and every time when I am at the shop I think of how, if it were not for that damn sister-in-law, I would still have my own shop and not have to work for this son of a b...! *Sometimes I get so angry I want to punch her in the face.* [The patient is right-handed.] A few weeks after I went to work for this man the rash started on my hand.

"Since you have started to treat me my hand is a lot better, but I think it is worse on Monday sometimes because my sister-in-law comes sometimes to visit over the week-end. When she is around I get all upset because she tries to start arguments between me and my wife. I feel that if I had the nerve I would hit her, but I don't. Now that you bring this up, I do notice that when she is around my hand begins to itch a lot."

The patient, although he had not had much formal education, was quite intelligent, and it was not too difficult to make him see the possible rôle of the psyche in his case. I suggested to him that he try to get a job in another bakery, and also that he speak his mind to his sister-in-law. He got a job with a baker for whom he had worked before he had his own shop. The men were fond of each other, and my patient was quite happy in this new situation. When I asked him about his sister-in-law he replied, "Oh, the hell with her. She doesn't bother me anymore." About four weeks after our first conversation the hand cleared completely and remained so. The injections were stopped, and there have been no recurrences of the dermatitis. Several months after the dermatitis cleared, however, the patient developed asthma, but he went to another doctor who, he heard, treats asthma without giving injections. From what I hear he is doing well. Perhaps the answer to this situation is expressed by Ethan Allan Brown,<sup>4</sup> who says: "To become mature at the problem-solving level is hard work, day in and day out, and most of us are incapable of the sustained effort it takes, both to grow up and to continue grown up."

Case 3. This is a case of Brown's,<sup>4</sup> and I present it for its interesting features. A 10 year old boy with asthma was presenting quite a problem to his parents. The cause was suspected to be a psychologic one. The boy was seen privately and was assured that nothing he said would be repeated to his parents. He was then asked why he was making such a damned nuisance of himself. The boy replied that if he did not get to go to summer camp he would make a greater nuisance of himself. His parents were told that he needed a summer in camp. Although he was typically allergic and required injection treatment for his sensitivities, he went through the summer free of symptoms.

The above cases are but a few of the many similar ones which have been reported in the literature. Abramson<sup>2</sup> in his paper, "Psychodynamics

and the Allergic Patient," gives nine case histories of patients in whom the diagnosis of allergy was definite and who were helped by psychotherapy. They are typical examples of the allergic individual in whom the psyche plays just as important a rôle as the allergic factors. I like to compare these patients to a loaded gun. The bullet is the allergic mechanism, the allergen-antibody reaction, set to go off but not exploding unless the psychogenic trigger is pulled. It therefore follows that in this type of patient symptoms can be avoided either by removing the bullet or by not pulling the trigger. The above cases have demonstrated that it can work either way. When the baker stayed away from his shop long enough his symptoms cleared up, even though the psychogenic trigger kept tripping the hammer. No bullet, no explosion. On the other hand, the patient with the asthma clearly demonstrated that, even in the presence of pollens, no symptoms occurred because the psychogenic trigger was not pulled. Apparently the psychogenic mechanism must act in some way to either raise or lower the threshold of allergic sensitivity. This will be elaborated upon in the discussion of the next group of patients.

Are the above situations applicable to every allergic patient? I do not believe so. I do, however, believe that they are applicable to many more patients than we realize. It would be impossible to refer every allergic patient to a psychiatrist. It is just as impossible for every internist, allergist or general practitioner to substitute for the psychiatrist. However, it is not too impractical for every physician to keep in mind the possibility of psychogenic factors while treating his patients. Brown<sup>4</sup> has stated that, as physicians, "we must combine the functions of internists, allergists and psychiatrists. We do this by recognizing the causative factors in both fields. We accept as a working hypothesis the slogan that no one wheezes excepting for a cause and a reason. We eliminate the direct cause, we immunize when we cannot eliminate, we medicate when elimination or immunization are impossible or incomplete. We operate when necessary. When all this has been done, we stop looking for causes and search for reasons." I should like to modify the last sentence to read: *While all this is being done, we search for reasons.*

It is true that the allergic approach is still the most practical for both physician and patient. A careful allergic study, with a thorough search for allergens, is important. It is also important to follow up this search with proper allergic management. Neither of these procedures, however, is a substitute for the psychotherapy needed by the patient who is a primary allergic with concomitant psychic disturbances. Each physician must decide how much psychotherapy he wishes to use in his practice, but even the physician who limits himself to the psychotherapy inherent in the patient-doctor relationship is in a position to give many patients the aid they need.<sup>5</sup> A patient who is stifling some emotional problem will often willingly unload his thoughts and feelings, if he knows that his physician is interested and



willing to listen. It is only in this manner that the allergic patient with a definite psychogenic trigger can be helped to the fullest extent.<sup>6</sup>

Although not all true allergic patients have psychogenic causes for their illness, most psychiatrists and many allergists feel that there is a definite psychogenic basis for the selection of the particular shock organ. Since a discussion of this concept is intimately associated with a discussion of the next group of patients, it will be taken up in its proper place. I should like to point out, however, that a great many allergists still feel that the determination of whether an allergic patient will have asthma, hay fever or eczema is part of the hereditary pattern of allergic disease.

#### THE PARA-ALLERGIC PATIENT

In 1926 Peshkin<sup>7</sup> introduced the term "para-asthma" to segregate bronchial asthma due to immunologic hypersensitiveness from asthma not due to immunologic hypersensitiveness. Similarly, the term "para-allergy" may be applied to patients who present clinical entities similar to allergic responses but are lacking in a true immunologic reaction. A great many allergists believe that there is no such group of patients, and that basically in these cases there must be some allergic factor which could be detected with sufficient effort. Many of these patients have been labeled "intrinsic allergics." However, I am convinced that there are patients with asthmatic seizures, with nasal symptoms similar to hay fever, with urticaria and with eczema in whom the antigen-antibody reaction cannot be demonstrated. The following case histories are examples of this group of patients.

*Case 4.* This patient, a 42 year old woman, came to the allergy clinic in October, 1945, with a history of having had severe asthma for about 10 years. The onset of her asthma dated from the time she had had pneumonia, which had developed during a hospitalization for dilatation and curettage and sterilization. Following her discharge from the hospital she was treated in the allergy clinic of the same institution. The results of all studies and treatment over the 10 year period during which she was treated at the clinic were disappointing. Skin tests, bronchogram and sinus x-rays were all negative. Several blood counts revealed only a 1% eosinophilia. Sputum examinations revealed no eosinophils. Every possible type of treatment had been carried out, with no results. The patient continued to have severe asthmatic attacks. Since she had attacks on the trolley car on the way to the clinic she decided to transfer to our clinic, which was closer to her home.

She was completely restudied in our clinic, but no definite allergic factors were found. She was treated with bacterial vaccines. Possible foci of infection were searched for and cleared up where possible. Histamine and old tuberculin hypsensitization were tried. The usual variety of medications was prescribed. In spite of all these efforts she continued to have severe asthmatic attacks, and on quite a few occasions had to be hospitalized.

After three disappointing years of treatment the psychosomatic approach was tried. The patient was questioned about her sterilization operation in 1935 that preceded the pneumonia which had been considered to be the precursor of her asthma. The patient, a devout Catholic, had not had the permission of the Church to have the sterilization performed. It was while she was ill with pneumonia that she learned



that she had been sterilized. This was a profound shock to her, and her asthmatic attacks began shortly thereafter.

On her return home from the hospital the patient went to see her priest and told him about her sterilization. She was refused communion for a year. (The patient claims this to be a fact, although I am told that communion is never refused as a punitive measure.) Subsequently she moved to another parish, but the asthma continued.

After obtaining this information from the patient I had a conference with the priest, who in turn spoke to the patient. He made her feel that, since the sterilization had been performed without her knowledge, she was not to blame and perhaps had been unjustly punished. Certainly, having carried out whatever punishment was allotted to her, she was now forgiven and was as welcome to the Church as any other member. The patient was quite obviously pleased with this interest in her religious life, and almost immediately began to show improvement.

For the last five years this patient has had no asthma. She continues to come to the clinic once a month for a supply of potassium iodide drops, which she takes daily. It is our feeling that she is rather reluctant to admit that the symptoms which she had for so many years were psychogenic in origin. She would rather make it seem that the potassium iodide had effected the cure. So be it, then: the patient is well.

*Case 5.* Kaufman<sup>5</sup> reports the case of a 36 year old housewife who consulted him because she thought she was allergic to house dust. Three days prior to her visit to Dr. Kaufman she had gone into her attic to houseclean. Almost immediately she developed nasal obstruction, rhinorrhea, lacrimation, sneezing and coughing. These symptoms persisted after she left the attic.

Further questioning revealed that, although she had gone to the attic with the intention of cleaning it up, her attention was diverted to letters tied together in neat bundles by blue ribbons. She had never seen them before, and since they were addressed to her husband she saw no harm in reading a few. Her nose began to stuff up—not from the moment of exposure to attic dust, but from the moment she read the first letter. They were from a former girl friend, and indicated a rather close attachment.

As the patient spoke about these love letters her eyes watered, her nose ran and she sneezed. She not only resented her husband's former love affair, but even more his continuing emotional attachment, as shown by the fact that he had kept the letters.

This woman's cure was brought about by her gaining insight into the nature of her own feelings, by her learning of the kinds of physiologic reactions which strong emotions could produce, and by reassurance from her husband. He reinforced his declaration of continuing affection for the patient by burning all the offending love letters. The patient returned to the same dusty attic and gave it a thorough housecleaning, but had no recurrence of her "dust allergy."

*Case 6.* Abramson<sup>2</sup> reports the case of a 31 year old married woman whose urticaria began one day after swimming. For the next eight weeks, which were spent near Long Island Sound, hives always formed after swimming. Skin tests to foods and inhalants were negative, and there was no history of previous allergic reactions. Testing with a standard cold stimulus, however, produced well formed wheals after as short a period as one minute of application.

While the onset of symptoms was being discussed with the patient she volunteered the following information. The summer before the occurrence of the hives she was considerably upset by the war in Europe (1940). Three friends were in the British and French navies. One friend died on the *Bretagne*, which was sunk at Oran shortly before her abnormal response to cold was manifested. On the day before the onset of the hives, while swimming toward shore, she had felt she wanted to

drown. During the two times she "went down" she had the feeling she didn't deserve to live while her friends serving in the Armed Forces had to die.

This patient's urticaria obviously followed a period of mental conflict which had endangered her life. The whealing response to cold cannot be looked upon as a true allergic reaction because of the absence of a complete or partial antigen. Furthermore, conventional allergic sensitization cannot be demonstrated in such cases. Therefore, it is more likely that the psychic trauma was capable of changing the physiologic processes in such a way that there was both a qualitative and a quantitative change in the response of the minute vessels of the skin to the stimulus of cold.

The patient acknowledged the conflict and its probable relationship to her symptoms. Later she noted that the calmer she became about her friend's death the slighter the trouble. She developed "a new point of view," made new friends and gained 10 pounds in weight. A year after the onset of her symptoms the patient returned to the place where she had almost drowned. She swam to the same boat and back to the same pier. There was no evidence of any urticarial response whatever.

The above cases are examples of patients with symptoms referable to the lung, nose and skin. The symptoms are similar to those experienced by patients in whom a definite allergic or immunologic pattern can be demonstrated. In the above cases, however, no such pattern can be demonstrated. To differentiate one from the other requires careful study and appraisal of the patient, his history, symptoms, physical findings and results of tests. To explain the occurrence of these symptoms in a nonallergic individual is indeed difficult. Psychiatrists have advanced theories in an attempt to explain this phenomenon. These theories will now be discussed separately as they apply to each group of symptoms and, as has been mentioned earlier in this paper, the discussion will also present a possible explanation for the selection of the shock organ in the true allergic patient as well as in the nonallergic individual.

#### ASTHMA

The basic concept in this disease is that the characteristic symptoms are directly due to a threat to the close attachment of the patient to his mother or to a mother figure. This is the so called Maternal Rejection Theory. In case 4 above, the mother figure could very well have been the Church. Abramson<sup>8</sup> feels that this theory is incomplete, and suggests that preceding the rejection there is a "mutual engulfment" between parent (mother or father) and child. The parent, Abramson states, is both immature and narcissistic, and attempts to force the child to develop after a pattern consistent with parental ideas of what the child should be. This pattern may represent the parent as he is or as he would like to be. As a result, the child is forced into a state of distorted dependency. However, when the child fails to meet the demands of the engulfing parent, the frustrated parent is enraged and threatens the child, and as a result the child feels rejected. Miller and Baruch<sup>10</sup> state that this feeling of rejection may be tolerated until the individual is exposed to events that, to him, represent the threat of

losing the mother; this may occur well into adult life. This would of course explain the onset of asthma at any age. Abramson<sup>9</sup> cites the case of a 58 year old man with asthma who, while under the influence of chloral hydrate, called "Mama, mama." When his wife, whom he always called Mama, approached him he said, "I don't want you, I want my own mama." Miller and Baruch<sup>10</sup> state that, no matter how old, the asthmatic patient still seeks emotional nourishment from a parent (or a person whom he pictures as a parent). These authors speak of four areas in the asthmatic patient's psyche: hunger for affection, fear of losing what affection he has, anger at the person from whom he wants additional affection, and anxiety over exposing this anger.

From the above discussion it becomes apparent that the asthmatic attack itself can be interpreted as being the equivalent of a cry of anxiety or rage which has been inhibited. To quote from Alexander:<sup>11</sup> "Thus, the asthma attacks, like a hysterical conversion symptom, express both opposing tendencies: the protest against separation and the protest against wanting to reestablish a dependent relationship to the mother by crying. This conflict seems to be the deepest and most primitive substratum of the asthma attack." Many cases have been cited where asthmatic attacks would cease when the patient could be induced to cry.

In the true immunologically sensitive patient, the same factors are said to be responsible for the selection of the lung as the shock tissue. Thus Saul<sup>12</sup> contends that, in these patients also, there is a strong longing for mother love, intense and unsatisfied; with the repression of the tendency to cry out, the lung becomes the shock organ which will react to the specific allergen. However, Saul continues, where such a repressed frustration is sufficiently intense, asthma can occur in a person who is not allergic. The emotional state must therefore be capable of producing changes in tissue sensitivity to the extent that physiologic changes occur without an antigen-antibody reaction. Wilson<sup>8</sup> further maintains that in the true allergic patient the irritation by the allergen would no longer precipitate an attack if the psychologic stimulus were eliminated. This is in keeping with the trigger-bullet mechanism described in the first part of this paper.

#### HAY FEVER

Wilson,<sup>8</sup> after a psychoanalytic study of seven cases of hay fever, suggested that the psychologic component is based upon a displacement of sexual curiosity from the visual to the olfactory sphere. The manner in which this displacement occurs is as follows: There is unsatisfied, thwarted and inhibited sexual curiosity. This occurs when parents or parental figures refuse to enlighten and instruct the child who is attempting to satisfy and master his sexual curiosity. As a result there is displacement and an increase in preoccupation with other bodily functions, particularly elimination. This function is intimately associated with odors: breath, perspiration,

urine and feces. When a taboo is placed on sexual curiosity and at the same time preoccupation with excretory functions is encouraged, this displacement occurs. When this occurs, the eyes and nose (the organs of sexual curiosity) assume the character of sexually stimulated genitals, with congestion and increased mucous secretion. Wilson goes on to hypothesize that patients who, as a result of their psychosexual development, have substituted olfactory for visual sexual curiosity may because of this become more sensitive to pollens. It may also be assumed that where the psychologic stimulation is greatly increased by repressed sexual tension, this alone may suffice to produce an attack of rhinitis. Wilson further demonstrated that, in those patients who had undergone analysis, pollen would not produce an attack when the chronic psychologic stimulus had been removed.

I have presented Wilson's theory for the selection of the shock organ in hay fever, whether it be in the allergic or the nonallergic. I am certain that it is not acceptable to many. However, it is an attempted explanation, and I have presented it as such.

#### URTICARIA AND ECZEMA

Frumess<sup>18</sup> states that "the skin may reveal emotional states as eloquently as do the muscles of facial expression." People very often refer to their own emotional states in terms pertaining to the skin. Such common expressions as "purple with rage," "white with fear," "sweating it out," "sweating blood," "sitting on pins and needles," "itch for revenge," "skin crawls," are examples of such expressions. These may very well be prefaces to the development of urticaria or eczema.

The underlying emotional disturbance responsible for urticaria and eczema again is thought to be basically that relating to the theory of maternal rejection. The evidence seems to indicate that the wishes for love from the parent are in the form of exhibitionistic desires and related to the skin. Where there is a heightened skin eroticism this operates as a determinant of the skin as a site for the symptoms. Just as the wheezing in asthma is supposed to represent suppressed desires to cry, the weeping skin in eczema and the swollen skin in urticaria are thought to be manifestations of the same frustration. Wilson was able to demonstrate that in his urticaria cases, as in his asthmatics, weeping would relieve the attacks and apparently could replace them.

Saul analyzed two young women who had prolonged generalized urticaria. Both these patients expressed longings for love in the form of dreams largely as wishes to be admired, to be beautiful and to have fine clothes. Both patients wanted to be dancers—one acted in amateur theatricals and the other modeled for artists. A patient of mine, a young, attractive wife and mother, lost her eczema when she was given small parts on television shows and was asked to model bathing suits. She was so carried away by the fact that her attractiveness was being recognized that she was all

prepared to go to Rome by herself to try out for movie parts. Her husband put a stop to that. Her eczema has not yet returned.

Frumess reports a group of children with atopic dermatitis studied from the standpoint of the maternal rejection factor. Of 33 children examined, 31 manifested symptoms of maternal rejection. In the other two cases the mothers demonstrated attitudes suggesting rejection of the child. Therapy was directed at correcting the mother's behavior toward the child. Favorable results exceeded those achieved by topical applications and conventional methods of therapy in allergy. It was felt that the "orgy of scratching" was used as a weapon by the child in retaliation against situations which threatened his sense of security.

In adult patients with eczema the same traits appear to be present as in the children mentioned above. Unlike the child, however, the adult suppresses his resentments and turns them inward.

Here again, theoretic and factual evidence has been presented in support of the theory that psychogenic disturbances can produce symptoms resembling allergic disease of the skin. These same psychogenic factors are believed to be responsible for the selection of the skin as the shock organ in the true allergic individual. In attempting to explain the physiologic mechanism involved in producing these symptoms, Frumess suggested that emotions such as insecurity, anxiety, hostility and guilt may lead to stimulation of the autonomic nervous system and thus to flushing, sweating, itching and excoriation. Graham, Wolf and Wolff<sup>14</sup> discuss changes in tissue sensitivity associated with varying life situations and emotions, and offer another explanation. These authors studied 30 subjects with urticaria not related to allergens. They arrived at the conclusion that urticaria, being part of the triple response reaction following trauma to the skin, may also appear due to symbolic trauma of life situations. In other words, the loss of tone of minute blood vessels which follows a blow may take place if a blow is merely threatened symbolically. It was also shown that patients with dermatographism showed whealing of the skin when histamine was applied by iontophoresis in concentrations lower than those necessary to evoke responses in control subjects. This demonstrated that there was produced in these patients an actual change in their quantitative sensitivity to histamine with an extreme lowering of the sensitivity threshold. To go back to the case of the young woman with urticaria following exposure to cold water, it is interesting to apply the above explanation. Although basically she may have felt "rejected" following the death of her friends, the onset of the urticaria obviously followed a period of mental conflict which had endangered her life. The cold water in which she had almost drowned thereafter represented trauma.

Summing up the interplay of psychologic and allergic factors, Saul suggested a general theory as to the mechanism of emotional factors in allergic disease which takes into account both the psychologic factors and protein sensitivity. According to this concept, one complements the other.

Saul contends that the emotional state leads to physiologic changes which either imitate the allergic symptoms (para-allergy), or render the tissues more sensitive to allergens (determination of shock tissue), or both. In this latter category can be found the patient with pure seasonal hay fever whose symptoms may become more severe as his longings increase. Further, as the repressed, frustrated longing becomes more intense, the symptoms may occur on this basis alone, without the presence of the allergen.

I have discussed the rôle of the psyche in the true allergic (atopic) patient and in the so-called para-allergic patient. There is a third group of patients I would like to discuss briefly, simply because they do present themselves to the physician and must be differentiated from the other two types. These are the patients who come to the physician with a diagnosis already made—by themselves. They will tell the physician that they have asthma, hay fever or hives. On examination no physical evidence of any of these conditions will be found. Careful questioning as to a description of the symptoms will usually reveal some rather bizarre definitions of these conditions.

The patient who claims to have "hives" will usually complain of itching but cannot satisfactorily reveal or describe an urticarial wheal. These patients usually do well on a mild sedative when other causes of pruritus have been ruled out.

We have seen a few patients who complain of typically recurrent seasonal hay fever but show no evidence, physical or otherwise, of having this disease. In these patients skin tests with various extracts in all dilutions will be negative; nasal smears reveal no eosinophils; the turbinates are not pale and edematous; intranasal and conjunctival tests with dry pollen evoke no symptoms. These patients do not belong in the group of para-allergics because they do not have typical symptoms or typical appearance of the nasal mucosa. They are usually quite close to people with hay fever and are mimicking symptoms, probably as part of a neurosis.

In this group of individuals are the ones who claim to have asthma. They are seen more frequently than the ones claiming to have hay fever or urticaria, and are a little more difficult to differentiate from the true asthmatic, allergic or para-allergic. Some of these people are malingerers, and produce laryngeal wheezing by forceful expiration through a constricted glottis and with the mouth open. It is truly amazing how many physicians can be taken in by this performance. The "asthma" can easily be stopped by asking the person to breathe with the mouth closed. I saw many of these cases while I was in military service. After a while I got the hang of it myself, and when one of these soldiers would demonstrate the "asthma" to me I would wheeze right back at him and order him back to his outfit.

Another group of "asthmatics" are those with deep sighing respirations and, occasionally, cases of hyperventilation. These people have probably seen patients with asthma and associate this irregular respiratory pattern with that disease. Some of these patients need psychiatric help.



*Case 7.* Not long ago in our clinic we saw a very obese female who complained of having asthmatic attacks after sexual intercourse. She was highly emotional, and all through her interview kept biting away at what little was left of her fingernails. She did not give a very satisfactory description of an asthmatic attack, but rather gave the impression that the emotional excitement and physical activity coincident to the sexual act caused her to become extremely dyspneic. This may have progressed into a true hyperventilation syndrome. She never returned to our clinic after this initial visit.

*Case 8.* Abramson<sup>2</sup> tells of a 38 year old unmarried lawyer who complained of asthma, eczema and hay fever. At no time while the patient was under observation was any asthma noted, nor could he describe a true asthmatic attack. Occasionally he manifested some modification of the respiratory cycle. This respiratory difficulty was misinterpreted by the patient. The eczema was localized to the scalp and was diagnosed as mild seborrheic dermatitis and responded to treatment. The complaint of hay fever seemed to be justified, but it was not induced by temperature changes, nor was it exaggerated by dust, perfumes, foods or any other allergens. The family and past personal history for allergy was negative. Physical examination and laboratory findings were negative, including the skin tests to an extensive series of dusts, pollens, foods and molds. There was no local condition in the nose to account for the symptoms, nor was there any blood eosinophilia. This patient's symptoms disappeared when his girl friend left him and married someone else. He admitted that he had not wanted to marry her but did not have the courage to tell her so. Perhaps the many complaints were intended to scare her off. They probably did.

I have introduced this group of patients into the discussion merely to call attention to the fact that they are not to be confused with the para-allergic group. The para-allergic group of patients have demonstrable signs and symptoms similar to true allergic disease. These patients do not. Although the cause of their symptoms also lies in the psyche, the basic disturbances are not the same and probably are much more superficial and easier to detect. As an example I might cite the following case:

*Case 9.* A nine year old boy was brought to me because he complained of "shortness of breath." His mother was convinced that he was developing asthma. During the interview in my office the patient demonstrated his "shortness of breath" by deep sighing respirations performed at the rate of about one every 30 seconds. I explained to the mother that this was not asthma, and called to her attention to the fact that she should know what real asthma was, since she also has a 17 year old son who is a true asthmatic and who is under my care. I further explained to her that the younger son was probably making a bid for a little more attention and was attempting to use a means which had got a great deal of attention for his older brother. Both the mother and I spoke to the patient, reassured him that what he had was not asthma, and explained that it was probably due to the fact that he was not getting enough exercise. He was encouraged to get out and play more with boys his own age. His father helped matters along by buying him some new athletic equipment. The boy is now more popular than ever before and has lost his "asthma."

Many similar cases could be presented. I think, however, it is quite clear that these cases can easily be separated from the others we have discussed by careful observation, examination and questioning.

Before concluding, I should like to add a word of caution. Although allergists and internists are urged to accept the fact that the psyche does play a rôle in allergic disease, I would also urge that the greatest of care be exercised in the evaluation of physical and psychologic factors in every case. It is just as wrong to have a closed mind to the importance of true allergic factors as it is to have a closed mind to the importance of psychogenic factors. The following story, however unlikely it may seem, illustrates what I mean:

It is told that a psychiatrist entered an allergist's office one day leading a young lady by the hand. The psychiatrist was anxious to prove to the allergist that urticaria could occur on an emotional basis alone, and was offering this young woman as evidence. Her complaint was that every time she had a falling out with her boy friend she promptly developed generalized urticaria. Since she had had a spat with the boy friend the day before, she was now suffering from one of her attacks of "hives." The allergist examined the patient and noted that each urticarial wheal had a punctate center and resembled an insect bite. When the girl was carefully questioned she rather reluctantly admitted that her bed was infested with bedbugs. The psychiatrist could not understand the relevancy of this fact to the outbreaks of urticaria following arguments with the boy friend until the young lady very obligingly solved the entire problem. She admitted that the only time she slept in her own bed was following a fight with her fiancé.

Dr. George E. Rockwell, in a personal communication to Dr. William Kaufman, tells of the following case, which is a good example of what could happen if a physician could not see the forest for the trees:

*Case 10.* A 20 year old woman was being courted by a fat man and a thin man. Whenever she went out with the thin man she was sure to break out in hives. She had no trouble when she dated the fat man. There seemed to be no solution other than to eliminate the thin man from her life and thereby to eliminate the hives. However, she loved the thin man, and her worry was how to get rid of the hives without getting rid of the thin man.

She was seen by an allergist who, after a searching history, learned that on several occasions the patient had had hives even when she did not see the thin man. Skin testing revealed a marked positive skin reaction to chocolate. Questioning revealed that the fat man who was courting her, fearing calories, always brought her flowers. The thin man always brought her chocolates, which they ate during the evening.

Instead of subjecting this girl to unnecessary psychotherapy, the allergist solved a complex problem with the usual tools of his profession. The girl married the thin man and it still is true today: no chocolate, no hives.

I have tried to point out the importance of retaining a proper perspective with relation to the influence of psychogenic factors in allergic disease. As Kaufman has stated, "Psychotherapy is never a substitute for careful allergic work-up and treatment." It is the competent allergist who knows how to apply both in treating his patients.

## SUMMARY AND CONCLUSIONS

Weiss and English<sup>1</sup> have stated that "the allergic and the neurotic populations are so large that they must overlap." In addition, it has been shown that there is a relationship between neurotic character structure and allergic disorder. To go a step further, it has also been demonstrated that symptoms similar to those of allergic disorders can occur due to psychic disturbances alone.

The preceding discussions and case reports have been presented in an attempt to bear out the accuracy of the above statements. I have also tried to show that, in order to be a good allergist, it is necessary to be equipped with something more than just bottles of extract and syringes. That something is the ability to blend allergic therapy and psychotherapy to meet the needs of the patient. The physician must first evaluate the physical and psychologic factors in each individual case. Where physical factors predominate, the allergist can do the greatest good for his patient by applying sound principles of allergic investigation and therapy, in addition to establishing a doctor-patient relationship which will encourage the patient to speak of his emotional problems.

Where psychologic factors either predominate or are the sole cause of the patient's illness, the physician must determine whether he is willing and sufficiently competent to treat the patient, or whether he should refer him to a psychiatrist. I cannot stress enough the importance of careful deliberation before making such a decision. Harm can be done by a faulty psychosomatic approach, and very often patients will resent a purely psychosomatic approach and will not return. Most of the time it will be necessary to continue allergic therapy while trying to break through to the patient's emotional problem. Again I must say that this should not even be attempted unless the physician has the time and the ability to handle such a problem.

Above all, the alert allergist should be able to distinguish the true allergic patient from the so-called para-allergic. By so doing, no patient need be subjected to unnecessary psychotherapy or to prolonged and unnecessary allergic therapy. Proper management depends on a careful evaluation of every patient who presents himself with symptoms of allergic disease. The conscientious physician will properly evaluate the physical and psychologic factors in such a patient and then treat him as he individually needs to be treated. Such an approach will result in much greater relief of symptoms for a great many people with allergic disorders.

## SUMMARIO IN INTERLINGUA

Allergistas in general ha essite satis reluctant a penetrar profundamente in le question del rolo del psyche in le causation de morbo allergic. Recentemente le interesse in iste aspecto del thema ha comenciate augmentar se.

Le patientes qui se presenta al medico con le requesta de un evaluation allergic

es classificabile in tres grupos: le gruppo atopic, le gruppo para-allergic, e le gruppo de individuos qui ha nulle signo physic de un disordine allergic sed qui es convincte que illes suffre de un tal.

Le patiente atopic es un individuo in qui un definite reaction de antigeno-anticorpore pote esser demonstrate e cuje caso es generalmente remediabile per un tractamento allergic. Il existe casos in que inhibitiones, frustrationes, e maladjustamentos psychosexual initia le mecanismo allergic. In tal patientes le elimination del factor allergic o psychic pote resultar in liberation ab le symptomatas. Le psyche debe in un maniera o un altere altiar o abassar le limine del sensibilitate allergic. Ben que in iste patientes le tractamento le plus practic es le tractamento allergic, le medico pote in certe casos assister les mesmo plus efficacemente per incoraggiar les a exprimer se in relation a lor problemas emotional.

Le patiente para-allergic presenta entitates clinic simile a responsas allergic sed ille non exhibi reactiones genuinamente immunologic. Il existe casos de asthma, rhinitis, urticaria, e eczema in que il es impossibile demonstrar ulle reaction de antigeno-anticorpore. Pro explicar iste phenomeno, psychiatros ha formulate plure theorias que rende plausibile le selection de un specific "organo de choc" non solo in le caso del patiente para-allergic sed etiam in le caso del patiente atopic. Assi nos ha le si-appellate "theoria del rejection materne" que interpreta le roncamento del asthmatic como un reimplaciamento del critar del infante. Assi le attacco asthmatic deveni le equivalente de un crito de anxietate o de un crito de furia. Le causa de "febre del feno" es secundo un altere theoria un displaciamento del curiositate sexual ab le sphaera visual al sphaera olfactori. Urticaria e eczema ha essite interpretate como resultante del "rejection materne" in personas in qui le desiro amorose—in le forma de un desiro exhibitionista—produce un augmentate eroticismo del pelle.

Le tertie gruppo consiste de patientes qui insiste que illes suffre de urticaria, febre del feno, o asthma sed qui non exhibi ulle signos physic o immunologic. Iste pote esser simulatores o psychoneuroticos. Alicunes del patientes qui insiste que illes suffre de asthma ha le syndrome de hyperventilation o produce un roncamento laryngee.

Nos sublinea le importantia del uso de grande sollicitude in le evaluation de factores physic e psychologic in cata caso individual. Il es tanto importante non subjicer le patiente a un psychotherapia innecessari como non subjicer le a reactiones innecessari del pelle. Le medico debe esser capace a combinar le therapia allergic e le psychotherapia in proportiones correspondent al requirimentos del patiente individual. Le medico etiam debe poner se le question si o non ille vole occupar se de psychotherapia e si o non ille es satis competente a practicar le psychotherapia o si o non ille deberea referer le patiente a un psychiatro. Un tal attitude resultara assecuratemente in plus grande alleviamento de symptomatas in grande numeros de patientes con morbos allergic.

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## CASE REPORTS

### PULMONARY MONILIASIS TREATED BY BRILLIANT GREEN AEROSOL: REPORT OF A CASE\*

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THAT serious pulmonary infections may and can be caused by various fungi has been well known for many years. Certain of these mycotic infections, such as coccidioidomycosis, histoplasmosis, actinomycosis, blastomycosis and cryptococcosis, have attracted more attention because their causative organisms are infinitely more often pathogenic. On the contrary, the monilia, which are natural saprophytes and normal inhabitants of the mouth, throat and respiratory passages, are only potentially and occasionally pathogenic to the host,<sup>1, 2, 3</sup> and therefore their exact etiologic relationship in any disease is not easy to establish. Actually, there are writers who seriously doubt that moniliasis of the lung is ever a primary infection.<sup>3</sup> Since the initial case described by Castellani<sup>4</sup> in 1905 in Ceylon, and the first case reported in this country by Boggs and Pincoffs<sup>5</sup> in 1915, many more cases of pulmonary moniliasis have been observed and reported. *Candida albicans* is a yeastlike fungus. Recently the genus *candida* has been proposed for these yeastlike fungi. Originally the name *Oidium albicans* had been used. However, in the literature the clinical infection is most often described under the name of moniliasis. *C. albicans* is probably the only pathogenic member of the genus *candida*.<sup>2, 3</sup>

There are no reliable data as to the exact incidence of pulmonary moniliasis.<sup>6, 7, 8</sup> So much is certain that it cannot be classified with the more common type of pulmonary infections. Apparently there are no particular distinctive peculiarities as to sex, age and racial groupings. Cohen found and reported four cases in 2,500 consecutive admissions to a hospital for pulmonary tuberculosis.<sup>9</sup> Coexistence of pathogenic fungi in certain chronic pulmonary diseases, especially chronic pulmonary tuberculosis, and a certain degree of synergism between mycotic and tuberculous infections of the lungs has been noted.<sup>8, 10</sup> In reviewing the literature one cannot but be impressed by the diversity of criteria applied for the confirmation of this diagnosis by various writers.<sup>9, 11, 12, 13, 14, 15</sup> This fact stresses the difficulties encountered in establishing an unequivocal diagnosis of pulmonary moniliasis. There are undoubtedly many factors contributing to this difficult problem of diagnosis. The major factor, we believe, is the fact that this fungus is so commonly found in the human mouth, throat and upper respiratory passages. In 30 to 40% of normal individuals, species of *candida* may be cultured from various parts of the body, and, of these, 15 to 20% from the mouth, throat and intestinal tract.<sup>2</sup> Another factor is the very common coexistence of

\* Received for publication June 10, 1955.

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this fungus in the presence of other known etiologic pulmonary infections, such as tuberculosis, bronchiectasis, pneumonia, etc.<sup>8</sup> A third factor is the fact that certain strains of the fungus which prove to be virulent to experimental animals are no more than harmless saprophytes when found in the human mouth or in the human sputum.

Among the many cases we have reviewed there are quite a few which we are very reluctant to accept as unquestionable cases of pulmonary moniliasis.

It may occur to the reader that the application of Koch's postulates might serve to exclude many of the questionable and borderline cases. However, this is not so practical as it may sound. Virulence in the human host is not the same as virulence in the experimental animal. Various other sets of criteria have been suggested, but it appears to us that the most reasonable and reliable set is the persistent cultural isolation of the fungus from bronchial washings as well as from sputum in the absence of all other possible causal agents in a patient with both clinical and radiologic evidence of pulmonary disease. We are convinced that the isolation of the fungus from sputum alone is less satisfactory than isolation from washings obtained by bronchoscopy from the deeper respiratory passages under aseptic conditions. We wish to stress that the fungus must be isolated and identified in pure culture repeatedly in the absence of other bacterial agents capable of producing the same or similar bronchopulmonary infections. This process of exclusion of the latter, in particular the *Mycobacterium tuberculosis*, is just as essential as the isolation of the fungus in pure culture. These two criteria together, for all practical purposes, will establish the diagnosis in a patient with consistent clinical and radiologic pulmonary findings.

Leopold<sup>13</sup> cites other stipulations to be fulfilled, such as a positive intracutaneous test with the specific *C. albicans* antigen, and the demonstration of agglutinins in patient's serum for *C. albicans*. However, immunologic response and a positive skin test are not always present, and in our opinion their absence is less significant than the presence of the cultural criteria cited above. Forty to 50% of adults may show a positive skin test to *C. albicans* vaccines.<sup>2</sup> On the other hand, the skin testing may be negative in the presence of acute monilia infection.<sup>14</sup>

As far as clinical manifestations are concerned, there is nothing specific or particularly characteristic in comparison or in contrast with other bronchopulmonary infections. The manifestations are those of acute or chronic pulmonary disease; and one may note at one time or another, cough and expectoration, hemoptysis, dyspnea, pain, weight loss, weakness, lack of pep, fever, sweats, etc. The infection may take the form of a very acute fulminating process lasting no more than a few weeks, or may prove to be a slow, chronic process lasting many years and simulating pulmonary tuberculosis, various pneumonic processes, bronchiectasis, carcinoma, etc. Radiologically, again, lesions are not particularly characteristic or specific; diffuse, widespread infiltrations may be noted scattered in one or more lobes. These are often indistinguishable from tuberculous or granulomatous lesions. The usual findings are extensive peribronchial thickenings, most often hilar in location, but they may be scattered or patchy. These lesions are larger than those seen in miliary tuberculosis. There may be considerable fluctuation in the radiologic picture from week to week. Cavitation may ensue. Healing is usually by process of extensive fibrosis.<sup>14</sup>

There is no specific therapy. Successful results have been claimed with many types of therapy. To say the least, treatment in general is unsatisfactory. Many drugs have been tried. Iodides appear to have been the most popular. Penicillin, streptomycin (alone or in combination), combinations of penicillin and iodides, autogenous vaccines, Lugol's solution, other antibiotics, anti-*C. albicans* rabbit serum,<sup>16</sup> gentian violet, thymol, arsenic and quinine have all been tried.

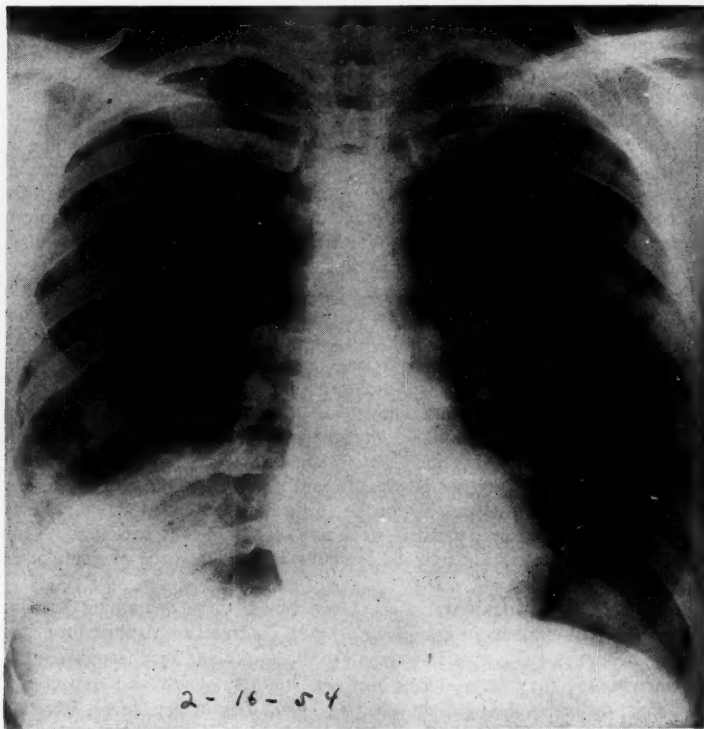


FIG. 1. Chest x-ray on February 16, 1954, showing large homogeneous density at the right base.

An interesting case was reported by Kass, Sasanom and Klein<sup>12</sup> in 1952. They had a patient with bronchopulmonary moniliasis whose organisms were inhibited in vitro by brilliant green 1-5,000,000. At the suggestion of Dr. Henry Welch, Director, Division of Antibiotics, U. S. Food and Drug Administration, the patient was treated with this dye by aerosol. After eight months of interrupted courses of treatment the patient was discharged, symptom-free and apparently well. We therefore decided to try this therapy on our patient.

## CASE REPORT

**History:** A 30 year old white male electrical designer was first admitted to the Medical Service of the Veterans Administration Hospital, Wilkes-Barre, Pennsylvania, on February 15, 1954, complaining of cough, pain in the right lower chest on breathing, fever, weakness and weight loss. The present illness had apparently begun in November, 1953, when right lower lobe pneumonia was diagnosed. When this did not respond to antibiotics the patient was sent to a large private clinic, where

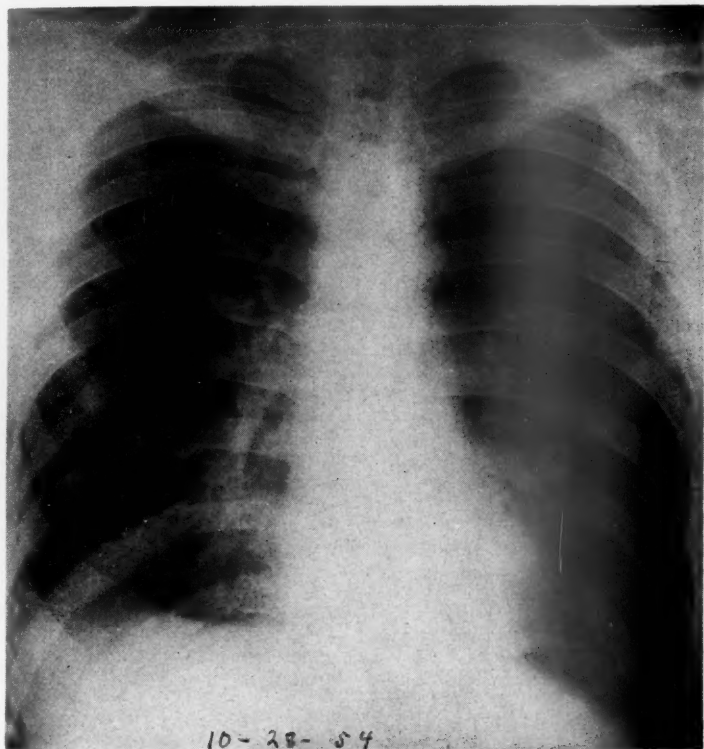


Fig. 2. Chest x-ray on October 25, 1954, showing marked clearing of right base after seven months of intermittent treatment.

an exploratory thoracotomy was performed on December 9, 1953. Numerous firm, yellow, solid lesions, 1 to 10 cm. in diameter, were found in the right lower lobe. The pathologist interpreted the lung biopsy as strongly suggesting a lesion due to *Histoplasma capsulatum*, although no histoplasma were seen. The slides were reviewed by the Armed Forces Institute of Pathology and coded as "necrotizing granulomatous inflammation, etiology undetermined . . . could be anything from fungal infection to granulomatous periarteritis." The cultures of the sputa, bronchial wash-

ings, pleural fluid and even the lung tissue removed at the thoracotomy all grew *C. albicans*. Histoplasma could not be found. The Clinic's note of referral to our hospital stated, in part: "We have all felt that we are dealing with an unusual pathological process, which will prove extremely chronic and perhaps even fatal."

*Physical Examination* was negative except for the following: Temperature, 100.5° F.; pulse, 95; respirations, 22. There was some pallor. A well healed scar of a recent resection of the right eighth rib was present. Over the right lower chest were found dullness, diminished breath sounds, tactile fremitus, vocal resonance and occasional friction rub.

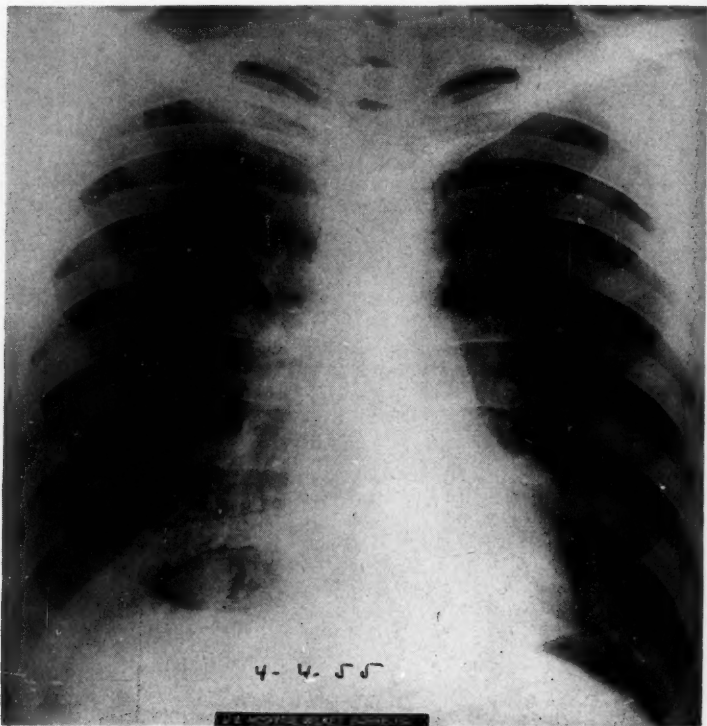


FIG. 3. Chest x-ray on April 4, 1955, showing further clearing and residual fibrosis.

*Laboratory and X-ray:* Red blood cells, 4,100,000; hemoglobin, 11.4 gm.; white blood cells, 5,800; neutrophils, 78%; lymphocytes, 22%. Sedimentation rate, 34 mm./hr. (Wintrobe). Serologic test for syphilis, negative. Three 24 hour sputa were negative for acid-fast bacilli on concentrate and culture. Four sputa grew *C. albicans* on culture. Two blood cultures were negative for bacteria and fungi. Chest x-ray (figure 1) showed "the entire right base and costophrenic sinus obliterated by a large homogeneous density. The interlobar fissure on the right is considerably depressed . . . considerable thickening of extreme left base, suggesting pneumonitis."

*Course in Hospital:* Temperature rose to 101° F. for the first 10 days, then slowly fell, becoming normal on March 10 and remaining normal thereafter. Intradermal tests to histoplasmin, coccidioidin, Oidiomycin and first strength PPD were all negative. Second strength PPD was positive. The first bronchoscopy, done on March 12, 1954, showed a stenosis of the right lower lobe bronchus which bled readily. Biopsy showed chronic inflammation, and bronchial washings grew alpha streptococci but no fungi or acid-fast bacilli.

*Diagnosis:* We did not agree with the previously made diagnosis of histoplasmosis. In view of the fact that we grew *C. albicans* from his sputa, and that it had been consistently cultured by a reliable outside laboratory from his sputa, bronchial washings, pleural fluid, and especially from his lung biopsy tissue, we felt that our patient was suffering from pulmonary moniliasis. The clinical course and histology also were consistent with this diagnosis. Tuberculosis was ruled out by repeated negative sputum cultures and bronchial washing cultures.

*Treatment:* Before using the new treatment referred to above we wrote to Dr. William S. Klein, who answered<sup>17</sup> that he and his co-workers had treated three patients with brilliant green and found it perfectly safe. We also wrote to Dr. Henry Welch, Director of the Division of Antibiotics, U. S. Food and Drug Administration, who had first suggested this therapy to Dr. Klein. He replied<sup>18</sup> that the safe daily intravenous dose of brilliant green was from 1/6 to 1/2 mg. per kilogram. The candida grown from the patient's sputum were found to be sensitive to brilliant green in vitro in a concentration of 1:1,000,000.

On March 16, 1954, treatment was begun with 2 c.c. of 0.1% brilliant green in 50% propylene glycol by oxygen aerosol inhalations five times daily. This was raised to 0.2% on March 22 and was well tolerated. If this were completely absorbed it would represent a daily dose of .25 mg./kg., within the safe range.

With this treatment the patient's temperature remained normal, he became progressively stronger, and his weight, which had been 170 pounds, rose to 179 on April 27, 1954, and to 192 on May 6, 1955. He received many interrupted two- to four-week courses of treatment, at first in the hospital, until June 28, 1954, then at home until October 28, 1954, when all therapy was stopped. Chest x-rays (figures 2 and 3) show gradual clearing of the infiltrates, with some residual fibrosis. Periodic bronchoscopies showed progressive improvement of the endobronchial disease. The last bronchoscopy, on April 5, 1955, was normal except for a slightly raised, red area, 6 mm. in diameter, in the right lower lobe bronchus. Pulmonary function studies done on that day were excellent. Vital capacity was 106%, expiratory reserve volume was 23% of vital capacity, maximal breathing capacity was 94%, residual capacity, 2,000 c.c.; total lung capacity (by planimeter), 6,250 c.c. The patient reported on May 6, 1955, that he continues to gain weight, works eight hours a day during the week and about his house on weekends, has a mild productive cough, but feels very well.

#### DISCUSSION

This case is presented as an example of successful treatment of pulmonary moniliasis by a relatively new method. To our knowledge, this is the second reported case to be treated in this manner. On the basis of the criteria cited above we believe that the diagnosis of pulmonary moniliasis is justified. The fact that *C. albicans* were cultured even from lung tissue removed by thoracotomy makes the diagnosis more convincing. The isolation of the fungus from pleural fluid is quite unusual and adds further weight to the validity of the diagnosis. In agreement with most of the authors reviewed, we attach little importance to the skin tests in this condition. Oblath et al.<sup>14</sup> state that the skin test is often

negative in severe infection. The clear-cut clinical response to the therapy and the eventual apparent cure are striking evidence of its efficacy. Our experience confirms that of others concerning its complete lack of toxicity. It is interesting to note that the patient found no difficulty in self-administration at home after discharge from the hospital. The treatment has the additional virtue of being relatively inexpensive.

#### SUMMARY

1. A brief review is made of the literature of pulmonary moniliasis.
2. Criteria for diagnosis are presented.
3. A case is presented of severe pulmonary moniliasis which responded in a spectacular manner to brilliant green aerosol.

#### SUMMARIO IN INTERLINGUA

Le autoritates non es de accordo in re le criterios del diagnose de morbo pulmonal debite a *Candida albicans*. Iste fungo existe frequentemente como saprophyte innocue in le bucca, le gurgite, e le vias respiratori. Pro establir iste diagnose clinicamente, il es necessari in nostre opinion isolar le fungo repetemente ab ablutiones bronchial durante que nulle altere pathogeno es trovabile que poterea explicar le lesion in question. Tests cutanee e serologic non es decisive. Le aspectos clinic del condition non es differente de ulle altere chronic lesion pulmonar. Le configurationes radiologic non es characteristic.

Le uso de aerosol de verde brillante in iste condition esseva prevemente proponite per Kass, Sasanom, e Klein. Nos presenta le caso de un masculo de trenta annos de etate qui habeva un infiltration del lobo dextero-inferior que non respondeva a antibioticos. Biopsia pulmonar revelava un granuloma necrotisante, e *C. albicans* esseva constatate in culturas de texto ab iste biopsia, in specimens de sputo, de ablutiones bronchial, e de fluido pleural. Omne essayos a cultivar bacillos acido-resistente esseva sin successo. Assi nos concludeva que isto esseva un caso de moniliasis pulmonar. Le patiente, post passar per un periodo de deterioration progressive, respondeva spectacularmente al administration de verde brillante per aerosol a oxigeno. Su temperatura deveniva normal; su peso se augmentava; le infiltration pulmonar se reduceva a bandas fibrotic; e le examine bronchoscopic monstrava que le lesion endobronchial esseva apparentemente curate. Le tractamento esseva continuete al domicilio del patiente. Illo es simple, secur, e incostose. Ab le 1 de julio 1954 le patiente ha travaliante sin interruption e a jornatas complete. Secundo nostre informationes, isto es le secunde caso publicate de moniliasis pulmonar tractate in iste maniera.

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### HEREDITARY HYPERBILIRUBINEMIA: REPORT OF A CASE \*

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FREQUENTLY the recognition of a hereditary metabolic defect is of considerable significance to the physician and to the patient. This is particularly true when the manifestations of the defect may be easily confused with those of important pathologic processes. For this reason the following case is reported in its entirety.

#### CASE REPORT

This 21 year old white Coast Guardsman first became ill in December, 1952, when he developed vague abdominal distress, anorexia, nausea and vomiting. He denied other symptoms on admission to a private hospital 10 days after the onset of his illness. Within 24 hours of admission the patient noted, for the first time in his life, a yellowish tint to his skin and sclerae. No other abnormal physical findings were noted. Liver function tests were not performed. Routine urinalysis and hemogram were normal. On December 23, 1952, he was transferred to the U. S. Public Health Service Hospital, Seattle, Washington, subsequent to which he has been observed as both an in-patient and an out-patient for approximately 18 months.

At the time of initial admission the patient complained of slight weakness but presented no physical abnormalities with the exception of questionably icteric sclerae. The heterophil agglutination, serologic test for syphilis, serial hemograms, including estimation of the erythrocyte sedimentation rate, urinalyses, urine urobilinogen determination, and chest roentgenograms were within normal limits (table 1). The serum bilirubin on four occasions was 3.12 mg. per 100 c.c., 3.22 mg. per 100 c.c.,

\* Received for publication October 4, 1954.

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3.2 mg. per 100 c.c., and 2.8 mg. per 100 c.c., respectively. Simultaneous to each determination the cephalin flocculation, thymol turbidity and alkaline phosphatase tests were performed and found to be normal. He was afebrile and his hospital course was uneventful. On supportive therapy the patient became asymptomatic and was discharged February 6, 1953, on sick leave. He was instructed to return for follow-up studies in two weeks. The impression at that time was that he had infectious hepatitis.

Because of a recurrence of jaundice while at home the patient was re-admitted to the hospital February 17, 1953. He had no complaints at that time other than icterus. Again this was the sole abnormal physical finding. Roentgenograms of the chest and abdomen, and serial urinalyses including determinations of urobilinogen content, heterophil agglutination, repeated hemograms and serologic test for syphilis, were normal. The van den Bergh reaction varied from 4.6 mg. per 100 c.c. to 0.9 mg. per 100 c.c. direct, and from 2.7 mg. per 100 c.c. to 0.64 mg. per 100 c.c. indirect (table 2). On several occasions liver function tests were normal. The group performed included the cephalin flocculation, thymol turbidity, alkaline phosphatase, total protein and albumin-globulin ratio, and Bromsulphalein excretion tests. Peripheral smears of the blood were interpreted as normal. After extended supportive therapy

TABLE 1  
Tests Found to Be Repeatedly Normal in This Patient

Roentgenology	Stool Studies	Hematology	Bacteriology	Blood Chemistry	Urinalysis	Liver Function
Chest Pyelography Gall-bladder series Flat plate of abdomen	Blood Ova Parasites Urobilinogen	WBC RBC Hb. Hematocrit E.S.R. Peripheral smear Reticulocyte count Coombs' test RBC fragility S.T.S.	Blood culture Urine culture Heterophil agglutination Leptospiral agglutination	Cholesterol Cholesterol esters Total protein Albumin-globulin ratio Blood urea nitrogen	Albumin Sugar Acetone Microscopic Urobilinogen Specific gravity	Cephalin flocculation Thymol turbidity Prothrombin time Alkaline phosphatase Bromsulphalein excretion Hippuric acid synthesis

and an uneventful hospitalization the patient was discharged April 24 on 30 days' sick leave. Again the impression was that he had infectious hepatitis.

The third hospital admission occurred May 29, 1953, and was for the purpose of further studies. At that time the patient complained only of icterus of varying intensity, although on specific questioning he thought that he might have some easy fatigability. Physical examination was normal except for icterus. Chest roentgenograms and gall-bladder series were normal, as were stool studies, serial hemograms and urinalyses. The reticulocyte count and peripheral smears were normal on several occasions. A Coombs' test was negative. Examination of the duodenal drainage aspirate revealed no abnormality. Repeated determinations of the alkaline phosphatase, cephalin flocculation and thymol turbidity were normal. The urinary urobilinogen was not elevated. Estimations of the serum bilirubin varied from 2.6 mg. per 100 c.c. to 8.8 mg. per 100 c.c. A complement fixation test for amebiasis was reported as positive. Full courses of Carbarsone and emetine were completed in the face of persistent denials of any symptoms suggestive of parasitic infestation. Incident to the emetine therapy, a transitory depression of the S-T segments and inversion of T waves occurred in practically all electrocardiographic leads. The patient's condition was neither subjectively nor objectively changed by the anti-amebic treatment. The diagnosis of amebiasis was not made. Liver biopsy was planned and the patient discharged August 5, 1953, with instructions to return in 10 days for this procedure.

His hospital course had been completely uneventful. The discharge diagnosis was amebic hepatitis, suspected.

On August 17, 1953, the patient was admitted for the fourth time. He had no complaints. The only abnormal physical finding was icterus. In addition to the repeatedly normal hemograms, sedimentation rates, urinalyses and chest x-rays, a complement fixation test for amebiasis was negative. Serial determinations of the cephalin flocculation, thymol turbidity, prothrombin time and total cholesterol were

TABLE 2  
Serum Bilirubin Levels

Date	Serum Bilirubin (mg. per 100 c.c.)	Indirect Van den Bergh (mg. per 100 c.c.)	Direct Van den Bergh (mg. per 100 c.c.)
12/24/52	3.12		
12/30	3.22		
1/ 6/53	3.2		
1/13	2.8		
2/19	6.4	1.8	4.6
2/24	3.5	0.7	2.8
3/2	1.96	0.94	1.02
3/10	3.6	2.2	1.4
3/17	3.6	2.7	0.9
3/24	2.8	1.86	0.94
4/2	2.2		
4/10	4.4	0.64	3.76
4/17	4.2		
4/23	3.2		
5/30	7.4		
6/8	8.8		
6/22	5.8		
6/30	4.4		
7/15	2.6		
7/29	3.4	1.4	2.0
8/17	4.2		
8/31	6.0	5.2	0.8
9/10	7.3	6.14	1.16
9/21	3.75	2.90	0.85
10/1	2.8	2.5	0.3
10/5	3.3	1.9	1.4
10/21	1.1	0.48	0.62
10/23	1.2	0.54	0.66
3/24/54	5.8	5.1	0.7
4/22	6.6	5.88	0.72
5/10	3.66	2.70	0.96
5/10	6.16	4.96	1.20
5/10	6.3	5.7	0.6
5/11	6.6	5.4	1.2
5/12	5.2	4.64	0.56
5/13	3.86	3.36	0.5
5/14	3.3	2.4	0.9
5/17	3.1	2.34	0.76

normal. The van den Bergh reaction varied from 0.8 mg. per 100 c.c. to 1.16 mg. per 100 c.c. direct, and from 5.2 mg. per 100 c.c. to 6.14 mg. per 100 c.c. indirect. A course of chloroquine was completed without incident. Although the patient presented no complaints, he became increasingly depressed as his long-term protestations of health were unheeded. He therefore deferred surgery until after consultation with his parents and was discharged September 11, 1953. The discharge diagnosis was hepatitis. Again the hospital course was completely uneventful.

During the month of September his van den Bergh determinations done on an out-patient basis were reported as 0.3 mg. per 100 c.c. and 0.85 mg. per 100 c.c. direct, and 2.5 mg. per 100 c.c. and 2.9 mg. per 100 c.c. indirect.

On October 5 the patient was admitted to the hospital for the fifth time with no complaints or abnormal physical findings other than icterus. In addition to repeatedly

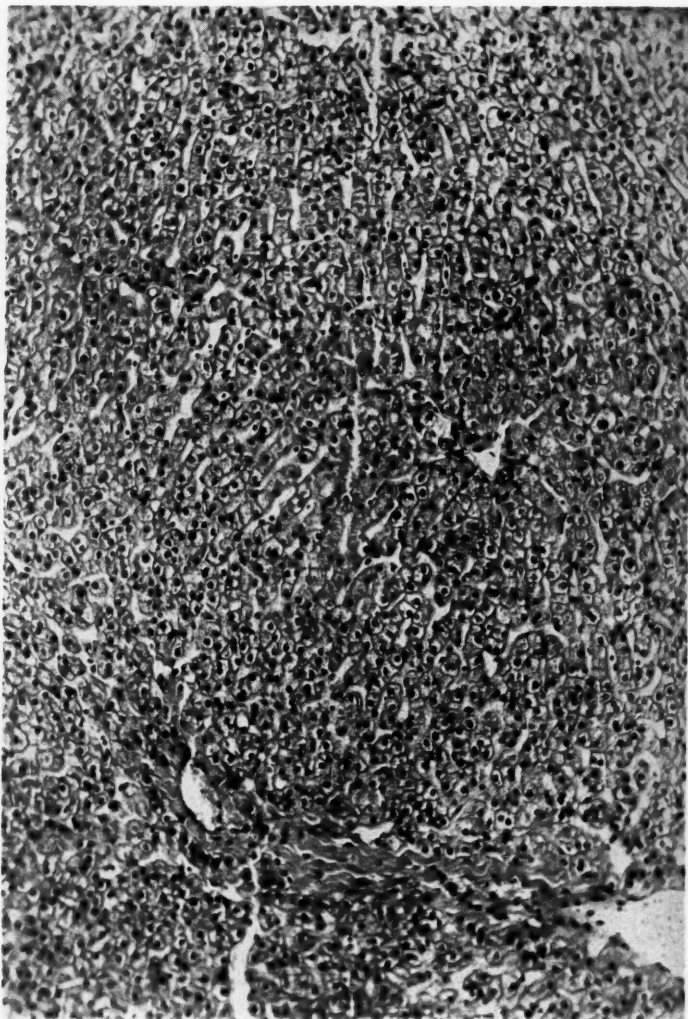


FIG. 1. A photomicrograph of the tissue obtained by liver biopsy. No abnormalities are noted.

normal hemograms, chest roentgenograms, urinalyses, sedimentation rates, urine urobilinogen determinations, cephalin flocculation, thymol turbidity, alkaline phosphatase and cholesterol and cholesterol ester estimations, the hippuric acid synthesis test was normal. Agglutinations for the leptospiral group of organisms were negative. There was no increased red blood cell fragility in hypotonic saline. The electrocardiogram was normal. Bromsulphalein was not abnormally retained. Results of the van den Bergh test varied from 1.4 mg. per 100 c.c. to 0.62 mg. per 100 c.c. direct, and from 1.9 mg. per 100 c.c. to 0.48 mg. per 100 c.c. indirect. On October 13, 1953, an exploratory laparotomy revealed no gross abnormality of the liver, gall-bladder, bile ducts, spleen or other intra-abdominal structures. Histologic examination of the biopsied liver tissue (figure 1) revealed a questionable increase of bile pigment in the centrolobular area (and a minute area of capsular infiltration with inflammatory cells). No pathologic diagnosis could be made. The surgical operation and convalescence were uneventful, the patient being discharged October 23, 1953, on 30 days' sick leave, at the expiration of which he was to return to duty.

It was during this admission that the diagnosis was first suspected when, incident to a discussion with the patient's mother, her sclerae were noted to be somewhat muddy although not definitely icteric. Extensive questioning revealed that she had been aware that this characteristic was intermittently present for as long as she could remember. She added that on occasion people had noted her complexion to be sallow. No other member of her family was, to her knowledge, so characterized, nor was her son known to have been jaundiced prior to his present illness. A van den Bergh test performed on the patient's mother October 14 was reported as 0.92 mg. per 100 c.c. direct, and 2.88 mg. per 100 c.c. indirect. On March 19, 1954, both of the patient's younger brothers and his mother were subjected to a battery of liver function tests. All had normal cephalin flocculation and thymol turbidity reactions. Both brothers had van den Bergh reactions well within normal limits. Values of 1.3 mg. per 100 c.c. direct and 1.5 mg. per 100 c.c. indirect were obtained from the mother. At that time all were asymptomatic and free of significant physical findings.

On March 25, 1954, the patient was re-admitted to the hospital because of what had been diagnosed by a referring physician as chronic hepatitis. During the five months subsequent to discharge from the hospital the patient had been assigned to duty involving irregular periods at sea. When at sea he noted anorexia, nausea, vomiting, lassitude and mild vertigo. Although relieved somewhat by Dramamine, the symptoms persisted until he reached shore or quiet waters. However, each episode resulted in a visible increase of icterus lasting up to one week. When this finding was noted by a physician, the patient was referred to determine fitness for duty. He had no specific complaints on admission. Once more the only abnormal physical finding was icterus. Routine urinalysis revealed microscopic hematuria, so cystoscopy and retrograde pyelography were performed. The former revealed posterior urethritis and prostatitis, which responded to antibiotics, sitz baths and massage. Subsequent urinalyses were normal. The serologic test for syphilis, urine and throat cultures, hemograms including peripheral smears and reticulocyte counts, red blood cell fragility and Coombs' test were within normal limits. The urine and stool urobilinogen content were repeatedly normal. A complement fixation test for amebiasis was negative. On three occasions a battery of liver function tests was done, the cephalin flocculation, thymol turbidity, prothrombin time and alkaline phosphatase being well within normal limits on each evaluation. The admission van den Bergh was 5.1 mg. per 100 c.c. indirect, and 0.7 mg. per 100 c.c. direct. One month later the values were 5.88 mg. per 100 c.c. and 0.72 mg. per 100 c.c., respectively. After an additional month the indirect value had fallen to 2.7 mg. per 100 c.c. and the direct fraction had risen to 0.96 mg. per 100 c.c.

A control solution of commercial bilirubin<sup>1</sup> dissolved in sterile 0.1 molar sodium

carbonate was prepared as aseptically as possible and cultured. Since the bilirubin could not be sterilized, this was done to check its purity. No growth ensued on culture, nor were organisms identified on smear. Accordingly, 70 mg. of commercial bilirubin were dissolved, under similar precautions, in 15 c.c. of sterile 0.1 molar sodium carbonate and injected intravenously. Preinjection culture was not advised by the bacteriologic consultant in order to avoid contamination. Unfortunately, postinjection culture of a small amount of the solution was unobtainable due to a misunderstanding. The dosage advised for the bilirubin excretion test is 1 mg. per kilogram of body weight, not to exceed 70 mg. The patient weighed 72 kg. at the time of injection. The van den Bergh immediately before the injection revealed a direct value of 0.96 mg. per 100 c.c. and an indirect of 2.70 mg. per 100 c.c. Five minutes after injection the former was 1.20 mg. per 100 c.c. and the latter 4.96 mg. per 100 c.c. The four-hour specimen contained 0.6 mg. per 100 c.c. direct and 5.7 mg. per 100 c.c. indirect acting bilirubin. Thus, instead of the normal 6% circulatory retention, the patient retained all of the injected bilirubin. Approximately 12 hours after the injection the patient developed malaise, myalgia, chills and fever. His temperature was 104° F. Within 36 hours the temperature had returned to normal and the patient was asymptomatic. Daily hemograms and sedimentation rates were normal. Blood culture revealed no growth. In addition to symptomatic therapy, the patient was treated with parenteral antibiotics until his temperature had been normal for 72 hours. After an additional three days of observation, during which time he remained asymptomatic and afebrile, he was discharged to duty. Interestingly, 48 hours after the test the direct van den Bergh was 0.56 mg. per 100 c.c. and the indirect 4.64 mg. per 100 c.c. After an additional 24 hours, these values were 0.50 mg. per 100 c.c. and 3.36 mg. per 100 c.c., respectively.

#### DISCUSSION

Although, according to Dameshek,<sup>2</sup> physiologic hyperbilirubinemia was first reported by Gilbert more than 50 years ago, surprisingly few physicians are aware of its existence. This is largely due to the paucity of literature on the subject, most of which has been published in foreign language periodicals. Dameshek, Comfort<sup>3</sup> and Rozendaal<sup>4</sup> have written excellent reviews of the subject in the American literature in the past two decades. Various terms "familial cholemia" or "familial nonhemolytic jaundice" or "icterus intermittans juvenalis," the condition is more accurately titled "constitutional hepatic dysfunction." This is by virtue of the single demonstrable abnormality of inability to clear the blood stream of bilirubin of intrinsic and extrinsic origin. However, the authors favor the term "hereditary hyperbilirubinemia," since it is self-explanatory and there is no evidence of any other hepatic dysfunction.

While accurate statistics are not available and no statement can be made as to the incidence of this condition, it is well to note that several cases are discovered each year at the Mayo Clinic.<sup>3</sup> The disorder is familial, apparently transmitted by either parent, and shows no predilection for any ethnic group or sex. The hyperbilirubinemia and accompanying icterus may be constant or intermittent and may appear at any age. All authors have commented on the "extraordinary monotony" of fatigue and asthenia as the presenting symptoms, although the possibility of the iatrogenic origin of such symptoms is great, as in the present case. Many, if not most, of the patients are symptom-free and work full time.

The only abnormal physical finding is icterus of varying degree, reputedly aggravated by fatigue, alcohol, and emotional and gastrointestinal upsets. There



are no abnormal laboratory findings with the exception of an elevated icterus index, impaired bilirubin tolerance, and an elevated serum bilirubin. The latter is almost exclusively due to the indirect fraction, although some moderate elevation of the direct fraction has been noted. This has been attributed by some to falsely elevated direct van den Bergh reactions in patients with marked elevation of the indirect fraction. It may well be due to the increased amounts of indirect reacting bilirubin having reached a level critical for liver metabolism and resulting in a transitory overloading of the blood stream with "processed bilirubin," however inadequate the sum total processing. On rare occasions liver biopsy has been obtained, always being found to be normal on microscopic examination. No treatment is indicated.

The febrile response noted in this patient was apparently of the pyrogenic type, although this cannot be unequivocally stated. Such a response to the bilirubin excretion test has not been previously reported to our knowledge. Hyperbilirubinemia in this patient prior to December, 1953, is conjectural, since the phenomenon may be intermittent and may start at any time in life, being most common in childhood and early adult years. However, there seems to be no doubt of the patient's diagnosis when one considers his clinical course and laboratory findings, abdominal exploration, liver biopsy, results of the bilirubin excretion test, and finding of unexplained jaundice in his mother.

Finally, it should be stated that a hereditary hyperbilirubinemia has been demonstrated in mice which includes all of the features of the human defect without other abnormalities of any sort. Again the bilirubin elevation is almost exclusively due to an increase in the indirect fraction.<sup>5</sup>

#### SUMMARY

A case of hereditary hyperbilirubinemia is reported, with demonstration of the single abnormal finding characteristic of this condition, namely, impaired excretion of bilirubin of intrinsic and extrinsic origin.

The clinical importance of this condition lies in its recognition as a benign metabolic defect, in order that prolonged hospitalization, unnecessary laboratory examinations and a poor prognosis may be avoided.

#### SUMMARIO IN INTERLINGUA

Inter le innate defectos metabolic, hyperbilirubinemia hereditari es relativemente incommun. Le syndrome es characterisate per elevate nivellos de bilirubina seral, principalmente debite a un augmento del fraction indirecte. Le unic altere anormalitate demonstrabile es le incapacitate de excretar doses experimental de bilirubina. Hyperbilirubinemia es familial e varia in le etate de su declaration e in le grado de ictero. Illo es associate con nulle symptoma o con vage e paucio definite molestias que pare esser de character neurasthenic. Le prognose es excellente, e nulle tractamento es indicate. Tamen, le condition es clinicamente significative in tanto que su recognition pote evitar prolongate hospitalisation e tractamento.

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**PANHYPOPITUITARISM FOLLOWING EPIDEMIC HEMORRHAGIC FEVER. I. CLINICAL FEATURES:  
REPORT OF A CASE \***

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THE late sequelae of hemorrhagic fever have not yet been completely delineated, since the opportunity for large scale follow-up study has been limited. Some of the early interest in this regard has centered around investigation of the inability of some patients to excrete a concentrated urine following apparent recovery from the acute phase of the disease. Initial consideration has been given to a residual renal defect as a responsible factor. That other factors may also be operative is suggested by our experience with a recent patient.

Pathologic alterations have been reported in widespread areas of the body among patients dying during the acute stages of this disease.<sup>1-4</sup> The frequent extensive necrosis in the pituitary gland, particularly in the anterior lobe, suggests that one of the late sequelae which might be expected is panhypopituitarism. Thus far, this manifestation has not been recognized clinically as a late development, or at least has not been reported. We have observed this entity in one patient. Its occurrence should alert physicians to its possibility, since many individuals having recovered from acute hemorrhagic fever will be in civilian life throughout the United States.

**CASE REPORT**

A 21 year old white soldier was admitted on January 24, 1954, to the United States Army Hospital, Fort Belvoir, Virginia, as an evacuee from an overseas hospital in Japan, for the purpose of investigating a residual inability to concentrate urine following apparent recovery from acute hemorrhagic fever. The clinical manifestations associated with this included polyuria, lack of stamina, anorexia with occasional vomiting, and a failure to regain his previous vitality and vigor. Physical examination on arrival at this hospital disclosed a slender, asthenic male who appeared somewhat pallid. The general examination showed no specific abnormalities and the vital signs were normal. The blood pressure was 120/80 mm. Hg.

The laboratory data included a leukocyte count of 12,800/mm.<sup>3</sup> with a differential count which demonstrated a relative lymphocytosis of 64% and an eosinophilia of 11%. The hemoglobin was 13.3 gm.% and the hematocrit was 36. The erythrocyte sedimentation rate was 25 mm. per hour (Wintrobe). A roentgenogram of the chest and an electrocardiogram were normal. The blood urea nitrogen, total serum

\* Received for publication September 24, 1954.

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proteins, albumin-globulin ratio, serum chloride, calcium, phosphorus and carbon dioxide combining power were all within the normal range.

Since our initial interest was directed toward the urinary tract, repeated urinalyses with particular reference to the specific gravity were obtained. The maximal demonstrable specific gravities were in the range of 1.008 to 1.009. Although a Fishberg showed that the patient was able to excrete urine with a peak concentration of only 1.010, a phenolsulfonphthalein test showed a total of 52% dye excretion, 35% of which was recovered in the first 30 minutes.

The possibility of diabetes insipidus as an etiologic factor in the increased urinary volume of approximately 3,000 c.c. a day was considered. During the first two weeks the patient's urinary volume diminished to approximately 1,400 c.c. with a parallel reduction in fluid intake. The patient's appetite improved and generally he felt better.

On the ninety-first day of his illness this young man experienced a prolonged clonic convulsion with urinary incontinence. A clinical finding of a cardiac arrhythmia consisting of frequent premature beats drew attention to a possible derangement of the cardiovascular system as a source of the otherwise unexplained convulsive episode. Tests for carotid sinus hypersensitivity were employed but without reproduction of symptoms or findings. Serial electrocardiograms were taken, and when nonspecific T wave abnormalities appeared with apparent increase in QT interval, the possibility of an electrolyte imbalance on the basis of endocrinopathy was considered. The previously observed elevation in eosinophil count (repeated stools were negative for parasites) and relative lymphocytosis assumed an increased significance.

At this time the previous clinical record was again reviewed in an attempt to determine if there were any unusual features characterizing the acute phase of the hemorrhagic fever in this patient. It was evident that the clinical course was typical of this disease in every respect except that there was no hypotensive phase. It is noteworthy that an increased urinary volume which marked the onset of the diuretic phase persisted.

Laboratory and clinical studies were undertaken in the direction of an evaluation of endocrine function. A relatively recent intravenous pyelogram, obtained during investigation of the urinary tract, precluded immediate employment of protein-bound iodine determinations or radioactive iodine uptake studies of thyroid function. The circulating eosinophil count, which ranged from 440 to 660 per cubic millimeter, was not influenced by administration of corticotrophin (48 hour test technic) or epinephrine. It was considered that this suggested pituitary as well as adrenal insufficiency. Urinary 17-ketosteroid excretion was studied on two occasions and found to be 4.1 mg. per 24 hours and later 1.7 (normal, 10 to 15 mg. per 24 hours). The 11-oxysteroid excretion was also decreased, with a level of 0.026 mg. per 24 hours as contrasted with the expected normal of 0.1 to 0.35 mg. per 24 hours. The inability of the patient to diurese in response to an increased water load was revealed by the challenge of a qualitative Robinson-Kepler-Power test.<sup>5</sup> Determinations of fasting blood sugar levels were made on several occasions and ranged from 63 to 84 mg.%. In view of the tendency toward low fasting glucose levels, we considered it unwise to stress carbohydrate metabolism with either the glucose tolerance or insulin tolerance tests, particularly since a diagnosis of adrenal hypofunction seemed established.

Additional interrogation of the patient disclosed a decrease in libido; however, no definite alteration in secondary sex characteristics was noted on examination.

Since the patient's over-all condition seemed unimproved and the asthenia with anorexia and occasional vomiting persisted, it was decided to administer a trial course of therapy consisting of 10 mg. of desoxycorticosterone in divided doses daily and increased dietary salt (8.0 gm.). Within a day or so a very salutary clinical im-

provement occurred, with increased appetite, weight gain and amelioration of weakness. On the sixth day after institution of this method of therapy and the one hundred fifty-first of his illness (April 10, 1954), the patient developed a generalized convulsion and died suddenly.

Since detailed necropsy studies are reported elsewhere,<sup>6</sup> only the pathologic findings germane to this discussion will be summarized here. The pituitary atrophy which was evident grossly was reflected by the histologic characteristics, which included old fibrosis and evidence of an old infarction. The only residual normal anterior lobe consisted of a thin rim of chromophobe cells. The posterior lobe showed slight compression atrophy and microscopic condensation fibrosis. The adrenal glands were thin and exhibited lipoid depletion of the cortex, with scattered fibrosis of the zona fasciculata. It was considered that the thyroid gland demonstrated early atrophy. The testicular tubules showed maturation arrest of spermatogenesis.

Other pathologic features of note included a rather widespread vasculitis and evidence of residual patchy interstitial nephritis, considered to be a manifestation of a healing phase of lower nephron nephrosis. There were also focal areas of dense fibrosis of the left ventricular myocardium which probably represented the residual of acute necrotic lesions known to occur in this disease.<sup>1, 2</sup>

#### DISCUSSION

The clinical and pathologic features exhibited in the patient reported here clearly established the presence of panhypopituitarism as a relatively late sequela of acute hemorrhagic fever. The immediate cause of death in this patient may have been directly due to extensive pituitary necrosis, or perhaps to acute and severe hypoglycemia associated with adrenal insufficiency. The pathologic finding of numerous cerebral petechiae was considered to lend support to the latter possibility.

Evolution of the alterations in water and electrolyte metabolism associated with onset of the diuretic phase of this disease is of interest in the light of observations in our patient. Diuresis following anuria or oliguria in acute hemorrhagic fever, as well as in other conditions producing the clinical features of lower nephron nephrosis, frequently has occurred with relative abruptness. While this could be entirely related to anatomic and pathophysiologic changes in the kidney parenchyma per se, associated functional alteration in the tubules could be related to altered hormonal influences on the basis of endocrinopathy. This concept is inviting, since pathologic changes in the endocrine glands, particularly the pituitary, are not uncommonly present in patients dying with this disease, significantly in highest incidence among those surviving well into the diuretic phase. The persistence of hyposthenuria despite return of renal clearance values to normal<sup>7</sup> is also suggestive of this point of view. The transition from polyuria to a relatively normal urinary output *without concurrent improvement in specific gravity* in our patient seems highly significant, and suggests that extrarenal factors were probably active. The balance of hormonal factors influencing renal tubular function was possibly altered during this period and accounts for the observation noted. Correlative evidence of electrolyte imbalance appeared and was manifested by alterations associated with repolarization and included prolongation of the "QT" interval. Although such abnormalities might have been related to anatomic changes observed in the myocardium, these appeared to be old and probably static, whereas the electrocardiographic alterations denoted a changing

status. Possible relationship between the cardiac arrhythmia (ventricular premature beats) observed and the myocardial changes did exist; however, this may have been incidental or possibly also related to electrolyte imbalance.

#### SUMMARY AND CONCLUSIONS

1. The clinical summary of a patient dying with panhypopituitarism and related endocrinopathies has been presented as a late sequela of acute hemorrhagic fever.

2. A concept has been presented which suggests that the persistent hyposthenuria observed in some patients may be related in part to alterations in endocrine function.

3. It has been suggested that detailed studies of endocrine function, with particular respect to the antidiuretic hormone, be undertaken both during the acute disease and also in those patients exhibiting persistent hyposthenuria.

#### SUMMARY IN INTERLINGUA

Le mecanismo del disveloppamento de panhypopituitarismo post epidemic febre hemorrhagic es clarmente indicate per reportos necroptic que monstra hemorrhagia o infarcimento del glandula pituitari. Preve studios clinic de epidemic febre hemorrhagic non ha prestate attention special al possibile disveloppamento de iste syndrome.

Nos presenta un caso de morte per panhypopituitarismo disveloppate in un patiente qui convalesceva ab epidemic febre hemorrhagic e esseva sub observation a causa de un altere condition. Le constatationes necroptic de lesiones pituitari e de altere lesiones endocrin es ponite in correlation con le curso clinic del patiente e con le datos laboratorial. Nos sublinea le importantia del facto que iste syndrome pote disvelopparg se post le apparente recuperation ab epidemic febre hemorrhagic.

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**PANHYPOPITUITARISM FOLLOWING EPIDEMIC HEMORRHAGIC FEVER. II. PATHOLOGIC ANATOMY \***

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IN a recent analysis of the causes of death in patients with epidemic hemorrhagic fever Giles et al.<sup>1</sup> found that acute renal failure, shock, dehydration, pulmonary edema and infection, hemorrhage into the gastrointestinal tract and central nervous system, and electrolyte disturbances were among the basic and contributory lethal factors in this disease. Panhypopituitarism can now be added to this list as a late sequela. This eventuality was certainly to be expected in view of the pathologic observations of Hullinghorst and Steer<sup>2</sup> and Lukes<sup>3</sup> in the more acute phases of the disease. These authors found that 72 to 77% of the autopsied cases exhibited varying degrees of necrosis of the anterior lobe of the pituitary. If the patients survived beyond the ninth day of illness, pituitary necrosis was found in almost every case by Lukes. The areas of necrosis were usually located in the central portion of the anterior lobe near the stalk of the gland. In cases with the most extensive involvement a peripheral subcapsular zone of undamaged pituitary cells remained.

The other pathologic findings in the active phases of this disease include damage to many organs. Retroperitoneal edema involving the base of the mesentery, the perirenal fat and the lateral peritoneal gutters was found in the early stages of the disease. Ascites and pleural effusion were noted in several cases. The heart exhibited epicardial petechiae and ecchymoses, and the majority of cases had subendocardial hemorrhage of a petechial size except in the right auricle, where it was extensive and appeared as a large, confluent, bluish red thickened area. The kidneys were large, with a pale gray to yellowish brown surface and cortex which contrasted sharply with a prominent, bulging, dark red medulla. The loops of Henle and the collecting tubules were distorted and compressed by congested blood vessels. Small foci of necrosis of tubular epithelium, hemoglobin casts, hyaline casts, interstitial edema and homogeneous eosinophilic deposits in the capsular space of the glomeruli were also observed. The adrenal glands were the site of microscopic areas of necrosis in about a third of the cases. Hemorrhagic necrosis of the adrenal cortex was observed in three cases. Pulmonary edema and bronchopneumonia, with or without lung abscesses, were found in several cases. Lymph nodes were frequently enlarged. The sinuses of the nodes were distended with lymph, a few erythrocytes and numerous macrophages. In the early stages, when the retroperitoneal edema was prominent, the lymphatics of the submucosa of the small intestine and the portal areas of the liver were widely distended.

The gastrointestinal tract was the site of petechiae and small ecchymoses in 80% of the cases. Extensive hemorrhage with blood in the lumen of the stomach occurred in four cases. Small acute ulcerations were also noted in a few cases. Involvement of the liver was minor and included chronic passive congestion, small

\* Received for publication September 24, 1954.

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foci of necrosis in the mid-zone of the lobules and a "mononuclear cell" infiltration of the portal areas. Interstitial edema with a sparse "mononuclear" and leukocytic infiltration was found in the pancreas.

Petechiae were noted in the central nervous system in 41% of the cases, and cerebral edema was found in a few cases. A slight perivascular infiltration of "mononuclear cells" was noted in the dermis and in striated muscle.

In summary, the fundamental pathologic change in the acute stages of epidemic hemorrhagic fever is *vascular damage*. The etiology and mechanism of the vascular injury are unknown.

The following case presents an interesting view of the pathologic sequelae some five months after the onset of the disease.



FIG. 1. Esophagus. Two submucosal blood vessels surrounded by chronic inflammatory cells, H. and E.  $\times 110$ . (Walter Reed Army Hospital, AMH 14656-b.)

#### CASE REPORT

##### POSTMORTEM EXAMINATION

##### Gross Pathology

The body was that of a normally developed, tall, thin 21 year old white male. The skin was clear and there was a scant amount of axillary and pubic hair.

*Peritoneal, pleural and pericardial cavities:* These cavities were lined by a smooth, glistening serosa and contained no fluid. *Heart:* Weight, 320 gm. The major coronary arteries were thin-walled and patent throughout, with no atheromata. The myocardium was firm, reddish brown and homogeneous. The endocardium was

smooth and glistening, and aside from a slight thickening of the chordae tendineae of the mitral valve the valves were not remarkable.

*Lungs:* Weight, right lung, 420 gm.; left lung, 400 gm. The lungs were crepitant, salmon-pink, with a lacework of anthracotic pigment, and no fluid exuded from the cut surface.

*Gastrointestinal tract:* The mucosa of the entire tract was intact, pink-white, and essentially normal in appearance.

*Liver:* Weight, 1,900 gm. The capsule was smooth, the liver edges were sharp, and it cut with ease, revealing a homogeneous red-brown cut surface. The gall-bladder and ducts were not remarkable.

*Spleen:* Weight, 300 gm. The capsule was smooth and glistening. The parenchyma was soft and reddish purple.

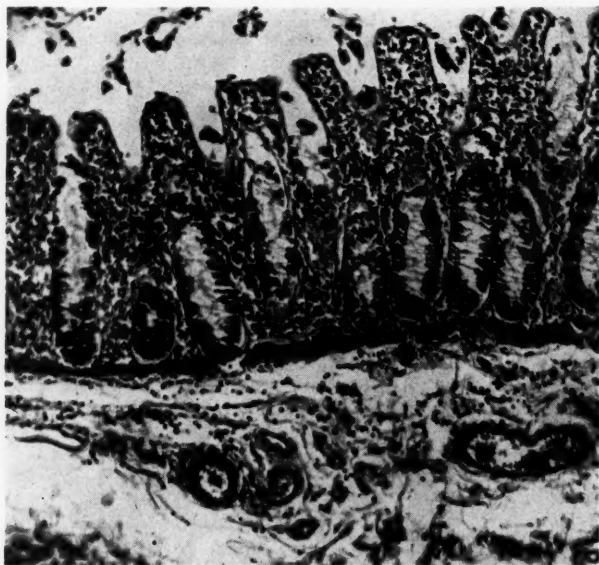


FIG. 2. Colon. Infiltration of submucosa with lymphocytes and plasma cells, H. and E.  $\times 85$ . (Walter Reed Army Hospital, AMH 14636-f.)

*Pancreas:* Not remarkable.

*Adrenals:* Weight, right, 3.2 gm.; left, 3.0 gm. The cortex of both adrenals was extremely thin, measuring 1 mm. It was yellow and contrasted sharply with the red-brown medullary tissue.

*Kidneys:* Weight, right, 170 gm.; left, 200 gm. The capsule of the right stripped with ease, revealing a smooth, red-brown surface. The left capsule stripped with difficulty, revealing a finely granular brown surface. The cortices were regular and thick, and there was a sharp line of demarcation between cortex and medulla. The calyces, pelves and ureters were not remarkable.

*Genital tract:* The left testis was one-half normal size, and on section revealed a tough white fibrous surface. The right testis was of the usual size and on section presented a yellow surface from which tubules strung out readily.

*Lymph nodes:* The periaortic nodes were not remarkable; however, those of the porta hepatis were markedly enlarged, averaging 3 cm. in diameter. Five such nodes were found in this region. They were soft and on section presented a bulging, mottled yellow and tan cut surface.

*Organs of the neck:* The thyroid weighed 12.5 gm. but was not otherwise remarkable.

*Brain:* Weight, 1,425 gm. The meninges were thin, transparent and glistening. There was no flattening of the gyri. No hemorrhages or gross abnormalities of the cerebral vessels were noted. The cut surfaces of multiple sections through the brain were not remarkable.

*Cranial vault:* The pituitary fossa was remarkable, since the diaphragma sellae was sunken and from the frontal view no pituitary tissue could be seen.

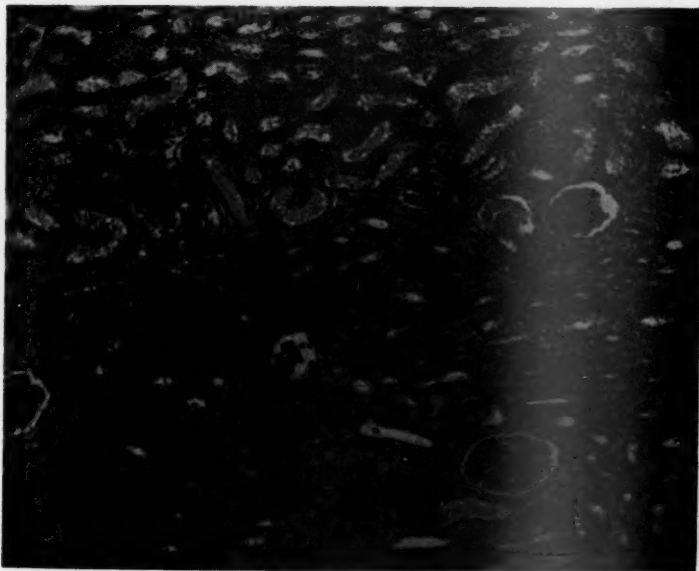


FIG. 3. Kidney. Junction between normal renal tissue and area of tubular atrophy with chronic interstitial inflammation. H. and E.  $\times 85$ . (Walter Reed Army Hospital, AMH 14656-j.)

#### *Microscopic Pathology*

*Heart:* The myocardium of the left ventricle revealed patchy replacement of muscle by dense fibrous tissue. One or two small vessels of the heart were surrounded by lymphocytes.

*Lungs:* The alveolar septa were thin, and the alveolar sacs contained macrophages and in a few areas eosinophilic protein precipitate and red blood cells.

*Gastrointestinal tract:* The esophageal epithelium was intact. Several small vessels in the submucosal connective tissue were surrounded by small collections of lymphocytes (figure 1). Similar perivascular infiltrates were present in the submucosa of the colon (figure 2). The interstitial tissue of the small bowel mucosa

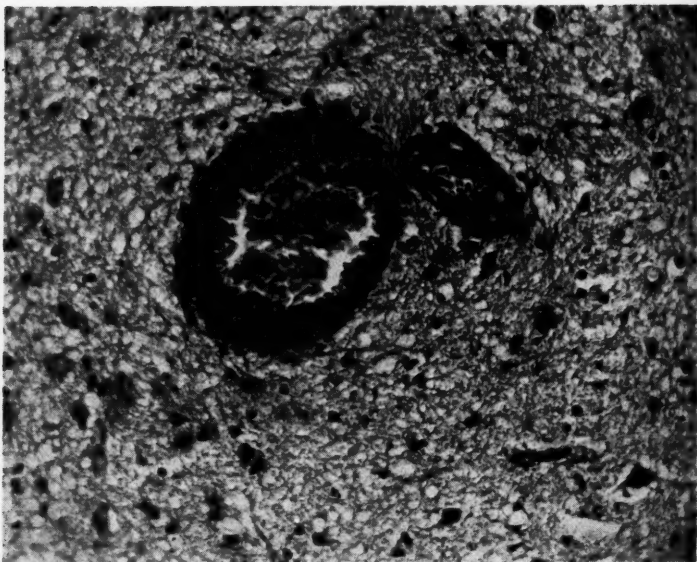


FIG. 4. Brain. The black ring in this photomicrograph is a densely packed layer of lymphocytes forming a perivascular "cuff." H. and E.  $\times 242$ . (Walter Reed Army Hospital, AMH 14656-a.)

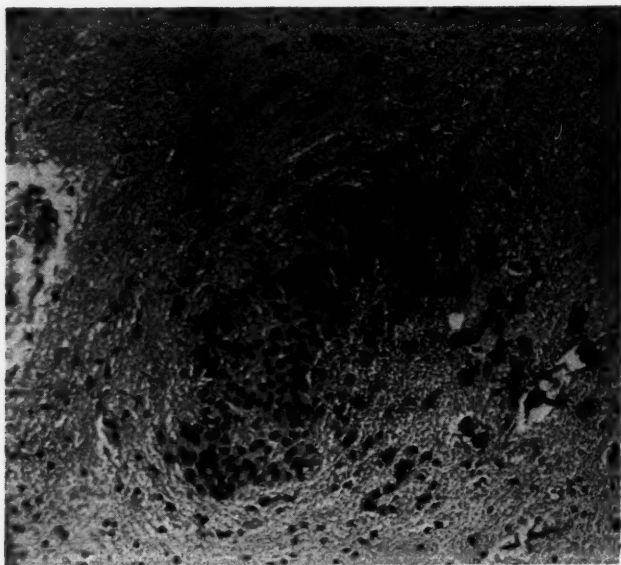


FIG. 5. Spinal cord. The neural canal is obliterated and replaced by a scar composed mainly of astrocytes. H. and E.  $\times 160$ . (Walter Reed Army Hospital, AMH 14656-c.)

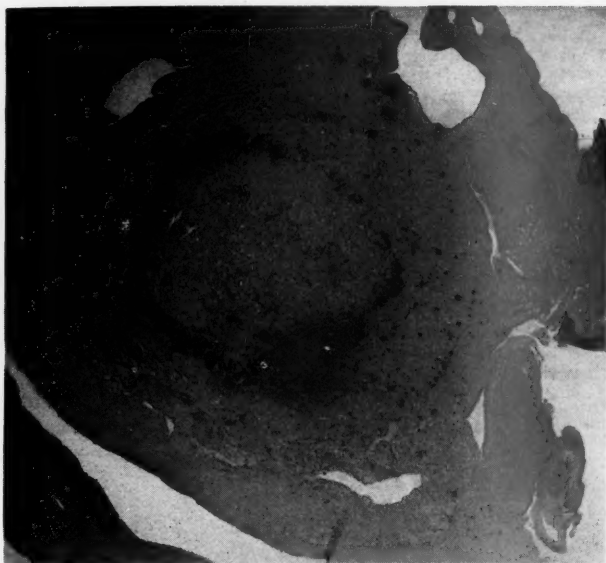


FIG. 6. Anterior pituitary. This is a parasagittal section to illustrate the fibrosis of the center of the gland with a residual rim of anterior pituitary cells. H. and E.  $\times 23$ . (Walter Reed Army Hospital, AMH 14656-j.)

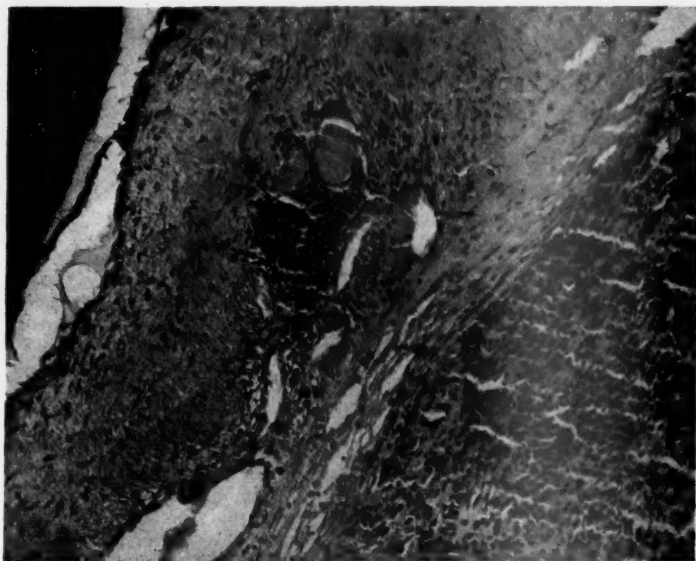


FIG. 7. Fibrous tissue near pituitary stalk with focus of perivascular chronic inflammation. H. and E.  $\times 160$ . (Walter Reed Army Hospital, AMH 14656-g.)

was infiltrated with lymphocytes, plasma cells and macrophages. Eosinophils were abundant in the submucosa of the colon. The muscular wall of the appendix was infiltrated with numerous eosinophils and a few polymorphonuclear neutrophils.

*Liver:* The general architecture was well preserved. The portal region of every lobule was prominent. The connective tissue of these regions was not easily visible because of a chronic inflammatory infiltrate consisting of lymphocytes, plasma cells and hemosiderin-filled macrophages. There were no areas of liver cell necrosis or fibrosis.

*Kidneys:* Both kidneys were essentially the same. Each contained a few hyalinized glomeruli, while most of the glomeruli were intact with no evidence of an increased cellularity. There were patchy areas of tubular atrophy in the cortices in

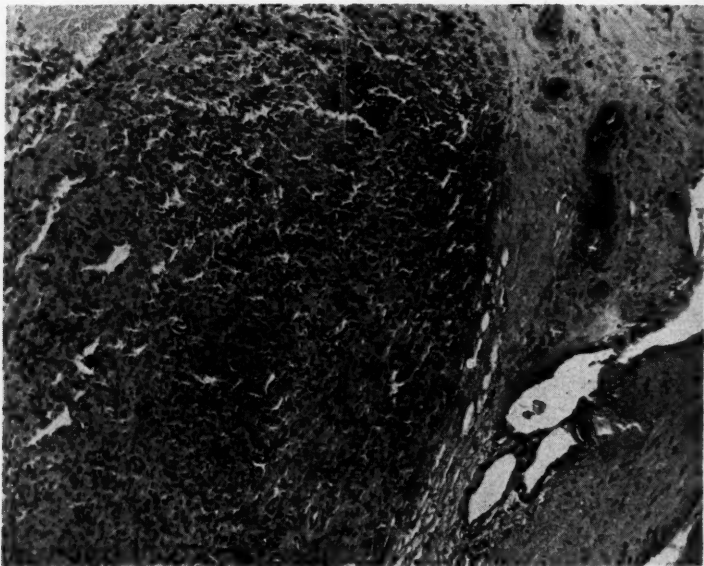


FIG. 8. Posterior pituitary. The cells of the posterior lobe are closely packed, and this tissue appears to have been compressed by the dense scar tissue surrounding it. H. and E.  $\times 110$ . (Walter Reed Army Hospital, AMH 14656-e.)

which the interstitial tissue was infiltrated with lymphocytes, plasma cells and macrophages (figure 3). The tubules contained a few hyaline casts. Several large casts were found in the interstitial tissue and were surrounded by an infiltrate of lymphocytes and macrophages.

*Lymph nodes of the porta hepatis:* The general architecture of these enlarged nodes was well preserved. There were a few clusters of macrophages filled with large lipid droplets, and the sinuses contained numerous macrophages.

*Brain:* Sections of the cortex, basal ganglia and pons revealed scattered vessels with a perivascular lymphocytic infiltration (figure 4). There were also a few small, rounded objects which stained blue with hematoxylin and which resembled calcium deposits or psammoma bodies. The endothelium of several small vessels was broken and blood had escaped into the immediately adjacent brain tissue. An



accumulation of glia was found on one section beneath the ependyma of the third ventricle.

*Spinal cord:* One section of cervical cord revealed obliteration of the neural canal and replacement by glial tissue (figure 5).

*Pancreas, spleen, pineal gland, gall-bladder, aorta, skeletal muscle, bone marrow and prostate:* Sections of these organs revealed no pathologic changes.

*Endocrine glands:*

*Pituitary:* The central portion of the anterior lobe was completely replaced by dense fibrous tissue containing calcium deposits, scattered hemosiderin granules and macrophages filled with this pigment. There was a thin rim of anterior lobe cells, approximately four to five cells thick, which surrounded the central fibrous scar (figure 6). The cells were chromophobes for the most part. The posterior lobe was small and compressed by dense fibrous tissue. Near one of the vessels of the stalk was a large collection of chronic inflammatory cells (figure 7). There were numerous masses of hemosiderin scattered through this lobe. The small amount of remaining posterior lobe tissue was very cellular, with an apparent decrease in the intercellular fibrillar tissue (figure 8).

*Adrenals:* The cortices were extremely thin. The glomerulosa, fasciculata and reticularis were easily distinguishable and, except for the marked narrowing of the fasciculata, were not remarkable. The medullary tissue was unaltered.

*Thyroid:* The follicles were large, filled with homogeneous colloid and lined by regular cuboidal epithelial cells. There were numerous focal accumulations of lymphocytes and macrophages in the interstitial tissue. Some of these were closely related to blood vessels.

*Testes:* The entire left testis was replaced by dense collagenous fibrous tissue. The right testis revealed no spermatozoa because of maturation arrest and tubular atrophy. There was no hyperplasia of the Leydig cells.

*Anatomic Diagnoses*

1. Postnecrotic fibrosis of anterior pituitary with panhypopituitarism as evidenced by:
  - a. Adrenal atrophy.
  - b. Thyroid atrophy.
  - c. Testicular atrophy.
2. Atrophy of posterior pituitary.
3. Focal perivascular inflammation (chronic) involving:
  - a. Brain.
  - b. Posterior pituitary.
  - c. Submucosa of esophagus, small bowel and colon.
  - d. Thyroid.
  - e. Periadrenal fat.
  - f. Liver.
  - g. Heart.
4. Chronic interstitial nephritis.
5. Myocardial and subendocardial fibrosis.
6. Petechial hemorrhages of cerebral cortex.
7. Chronic inflammatory hyperplasia of lymph nodes of the porta hepatis.
8. Fibrosis of right testis, ? due to healed mumps orchitis.

*DISCUSSION*

The scarring of the pituitary in this patient can be ascribed to epidemic hemorrhagic fever, not only on the basis of his history but also on the basis of the pathologic findings. The fibrosis of the anterior lobe was central in location,

just as the necrosis of the pituitary in the acute stages is commonly in the central region. Also, a thin rim of anterior lobe cells remained intact at the periphery, just as in the acute stages such a rim of viable cells was noted. The amount of destruction of the anterior hypophysis was sufficient to produce clinical panhypopituitarism and anatomic evidence of pituitary insufficiency, inasmuch as the adrenals, thyroid and testes were atrophic. Whether the posterior lobe was functionally insufficient cannot be determined in this case. Anatomically it appeared to be compressed by the dense scar tissue surrounding it. In addition to the fact that it was much smaller than normal, the cells were closely packed and a decrease in the amount of intercellular fibrillar tissue was noted. Although the patient had polyuria and an inability to concentrate urine, this may have been due to persistent renal damage, or perhaps to both renal and posterior pituitary dysfunction. The kidney lesion in this case appeared relatively insignificant, and consisted of focal areas in the juxtamedullary cortex of tubular atrophy with chronic inflammation of the surrounding interstitial tissue. There were a few casts in tubules in these regions, and a few were found outside of tubules in the interstitial tissue. These changes are consistent with the healing phase of lower nephron nephrosis, but whether they are adequate to explain the low fixed specific gravity of the urine and polyuria cannot be determined.

The diffuse interstitial myocardial fibrosis and focal chronic inflammation probably account for the cardiac arrhythmia observed in this patient, and may give some insight into the residual arrhythmias reported in other cases. Powell<sup>4</sup> observed a left bundle branch block and auricular fibrillation in two convalescent patients. The amount of fibrosis was not great enough to produce any functional or anatomic evidence of cardiac failure.

The perivascular chronic inflammation found in the brain, heart, periadrenal fat, thyroid, liver and gastrointestinal tract occurred in those regions where hemorrhages of varying sizes were observed in the acute stages of the disease. These findings point to an etiologic agent capable of producing not only severe acute vascular damage but also persistent inflammation of the vascular system.

The immediate cause of death in this patient was not demonstrated; however, the fact that his blood sugar was consistently low and that he died suddenly in convulsion suggests an acute hypoglycemic episode. The multiple petechial hemorrhages in the brain give added support to this idea.

It is of considerable interest to compare the *anatomic* and *hematologic* aspects of this disease to those of its counterpart in women during pregnancy. In spite of the obvious fact that the etiologic agents of these conditions must be different, there are enough similarities to suggest a common pathway in the pathogenesis of both. Sheehan<sup>5</sup> pointed out the relationship between pituitary necrosis followed by fibrosis and panhypopituitarism in certain obstetrical patients with eclampsia or premature separation of the placenta or infection. In addition to the fact that both epidemic hemorrhagic fever and these accidents of pregnancy exhibit pituitary necrosis, fibrosis and panhypopituitarism, they have other acute pathologic changes in common. Petechial hemorrhages and ulcers in the gastrointestinal tract, focal hemorrhage and necrosis involving liver, kidneys and adrenals, lower nephron nephrosis, and small and large hemorrhages in the brain are found in both. Clinically they have in common death in shock, acute renal failure, and hemorrhage of varying degrees of severity.

Hematologic studies in both conditions reveal several features in common.

Among other changes in the obstetric patients, Pritchard et al.<sup>6</sup> have demonstrated thrombocytopenia and slight prolongation of the prothrombin time and the coagulation time. In patients with epidemic hemorrhagic fever, Furth<sup>7</sup> has demonstrated thrombocytopenia, initial neutropenia, and prolongation of the prothrombin and coagulation times. These hematologic changes suggest that in both conditions a "hemoclastic reaction" takes place. The essential process of the hemoclastic reaction is that of an episode of intravascular clotting.<sup>8</sup> In the obstetric patients the thromboses of small arteries, arterioles and capillaries have been demonstrated anatomically,<sup>9</sup> and are undoubtedly responsible for the hemorrhages and necrosis of tissue. Such thrombi have not been reported in autopsied cases of epidemic hemorrhagic fever. However, it is possible for such thrombi to form and disappear in a matter of hours,<sup>10</sup> and autopsies on patients dying of epidemic hemorrhagic fever within the first four days of the disease are few in number. More detailed hematologic studies of the early stages of epidemic hemorrhagic fever seem indicated to test the possibility of a transient episode of intravascular clotting.

#### SUMMARY

The pathologic findings in a case of panhypopituitarism following epidemic hemorrhagic fever have been presented. The possible significance of the anatomic changes has been briefly discussed.

#### SUMMARIO IN INTERLINGUA

Le examine post morte de un patiente succumbite a panhypopituitarismo cinque menses post le declaration de epidemic febre hemorrhagic revelava fibrosis central del glandula pituitari anterior; atrophia del glandulas adrenal, del glandula thyroide, del testes, e del glandula pituitari posterior; inflammation perivascular focal que involveva le textos submucose del vias gastro-intestinal, le glandula thyroide, le hepate, e le corde; chronic nephritis interstitial; e chronic inflammation e fibrosis del myocardio.

Iste observationes es correlationate con le constataciones clinic in iste patiente, e certe similitates clinic, pathologic, e hematologic con altere conditiones morbose es signalate.

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### SUDDEN MAJOR ARTERIAL OCCLUSION IN THE UPPER EXTREMITY OF A DIABETIC: CASE REPORT \*

By B. G. McLAUGHLIN, *Manchester, New Hampshire*, and R. F. BRADLEY, *Boston, Massachusetts*

SUDDEN occlusion of a major artery in the upper extremity has recently been observed in a diabetic patient. Peripheral vascular disease, usually manifested by thrombosis of or, rarely, by embolism to a major vessel, is frequently seen in this clinic. However, the overwhelming majority of such lesions have involved the lower extremities. Occlusion of a major vessel supplying an upper extremity has been extremely rare, although before the use of sulfonamides or antibiotics<sup>1</sup> gangrene requiring amputation occurred in five cases secondary to severe infection. Gangrene has occurred in such other unusual sites as neck, skin, nose, tongue, lungs, vulva and glans penis.<sup>2</sup> Even more recently, gangrene of the scrotum has been seen in a diabetic, with recovery on intensive antibiotic therapy. Almost invariably these unusual sites for the occurrence of gangrene have been related to severe staphylococcus or streptococcus infection.

Observations in the case reported below prompted a review of admissions to the New England Deaconess Hospital, including the hospitalized diabetic patients of the Joslin Clinic, over the past 31 years, in order to ascertain the incidence of thrombosis or embolism involving the upper extremity in both a diabetic and a nondiabetic population.

From January, 1922, to January, 1954, a total of 169,240 patients have been admitted to the New England Deaconess Hospital. Of these, 49,732 have been diabetic. Instances of sudden thrombosis or embolus in a major artery of the upper extremity, with or without gangrene and without previous knowledge of disease in the involved extremity, were chosen from this large group of patients. Infections or specific entities such as Raynaud's disease or scleroderma leading to gangrene were not included.

The difficulty in distinguishing between thrombosis and embolus is well known. Allen, Barker and Hines<sup>3</sup> state that "no methods exist which offer absolute certainty for distinguishing between these two conditions." In the cases recorded below diagnosis of thrombosis or embolism is based upon clinical impression.

\* Received for publication September 29, 1954.

Excluding the case reported here in detail, a total of eight additional cases have been found. Five of these were diabetic, three nondiabetic. Of the latter, all were females, at ages 41, 48 and 60, and their occlusions were diagnosed as embolic in origin. The etiology in this group was, respectively, rheumatic heart disease with auricular fibrillation, subacute bacterial endocarditis, and unknown.

Of the five diabetics there were four females and one male. Their ages were 38, 54, 61, 76 and 78 years. Four of these occlusions were attributed to thrombi of atherosclerotic origin, and one to an embolus which originated from an intracardiac thrombus (case 4) three days following myocardial infarction. There were too few patients and insufficient data to allow accurate evaluation of diabetic control for the series. Although two patients (cases 1 and 5) were first found to have glycosuria at the time of arterial occlusion, it was estimated that diabetes may have been present for some time. Absence of renal disease was judged on the basis of normal nonprotein nitrogen in the blood, and is indicated merely to rule out the occurrence of the vascular occlusion as part of a terminal uremia.

TABLE 1

Patients with Diabetes and Sudden Major Arterial Occlusion (Upper Extremity)

Case	Age	Sex	Duration of Diabetes at Time of Occlusion	Insulin Units	B.P.	Cardiovascular Findings					
						Heart Size	Rhythm	Retinitis	Renal Disease	Artery Involved	
										Location	Side
1	54	M	Onset	12	N	N	Sinus	0	0	Brachial	L
2	78	F	4 yrs.	32	N	Enlarged	Sinus	0	0	Brachial	L
3	76	F	16 yrs.	30	240/100	Enlarged	Sinus	Present	0	Brachial	L
4	38	F	26 yrs.	38	N	Enlarged	Sinus	Present	0	Radial	R
5	61	F	Onset	15	170/80	Enlarged	Sinus	0	0	Brachial	R

## CASE REPORT

A 54 year old white female who had had diabetes mellitus since 1938 was first seen at the Joslin Clinic on September 9, 1953, complaining of nocturnal pain in the posterior right thigh, and right calf and foot of some three to four weeks' duration. This was characteristic of diabetic neuritis. Physical examination at that time revealed all peripheral pulses to be present and equal. On September 13, 1953 she was admitted to the New England Deaconess Hospital complaining of the sudden onset of severe dull aching pain in the right antecubital fossa with radiation into the right forearm. This had begun 19 hours before admission. Eight hours before admission the patient developed numbness, tingling and marked diminution of muscle power in the right hand.

*Past history* was significant in that hypertension had been recorded as early as 1938. She had never followed any prescribed diabetic diet, and had not begun insulin until 1950. No insulin adjustments according to urine tests had been made, and her infrequent urine tests showed glycosuria.

*Physical examination:* The patient was generally well except for obvious pain in the right forearm and hand. Her weight was 233½ pounds; blood pressure, 170/100 mm. of Hg. Micro-aneurysms and flame-shaped hemorrhages and waxy exudates were seen in both fundi. There were a few inspiratory rales at the right base. The only positive findings in the extremities were limited to the right forearm and hand

which were cool and dusky in comparison to the left. Hand grasp was diminished and no axillary, brachial or radial pulses were present in this arm. The remainder of the physical examination was negative. Cardiac rhythm was regular.

*Laboratory results:* Hemoglobin, 15.4 gm.%; white blood count, 10,700; glycosuria, 0.4%. Blood sugar was 227 mg.%. Cholesterol was later reported to be 170 mg.%. Phenolsulfonphthalein excretion was normal. An electrocardiogram revealed inverted T waves in  $V_1, 2, 3, 4, 5$  which were thought to represent myocardial ischemia. X-ray of the chest showed the heart shadow to be slightly enlarged.

*Treatment:* Stellate ganglion block on the right resulted in questionable increase in warmth of the hand. Anticoagulant therapy was begun and maintained with heparin for three days and with Dicumarol for four days. Control of diabetes was attained with a diet of carbohydrate 137, protein 60, and fat 33 gm., and 16 units of crystalline and 72 units of protamine zinc insulin.

*Course:* The patient showed slow but steady improvement. At the time of her discharge brachial and radial pulses were faintly palpable. The forearm and hand remained warmer, and the previously noted duskiness had disappeared. Partial return in muscular function of the affected hand was evident.

During a nine month follow-up period since her discharge the radial and brachial pulse have become stronger, and no evidence of tissue breakdown has been noted. Some dull aching pain has persisted. The distal portions of two fingers retain some mottling, coldness and paresthesias.

On April 30, 1954, the patient was re-admitted to the New England Deaconess Hospital with a partial left hemiplegia of 10 days' duration. Gradual onset of drooping in the left side of her mouth and inability to move the left arm and leg had been noted, with gradual improvement up to the day of admission. Improvement continued until her discharge on May 9. When she was last seen, on June 22, no definite residual hemiplegia could be detected. Clinical impression indicated she had suffered thrombosis of a middle cerebral artery on the right.

#### DISCUSSION

Little is said in the standard textbooks on peripheral vascular disease regarding sudden occlusion of a major artery to the upper extremity due to either thrombosis or embolus. Allen, Barker and Hines<sup>4</sup> list 100 cases of sudden arterial occlusion, of which 23 involved the upper extremity. Ten of these resulted from embolism and 13 from thrombosis. They state that in all cases of arteriosclerosis obliterans, diabetes mellitus should be ruled out. Five of their cases with arteriosclerosis obliterans had diabetes mellitus. Studying 49,922 postmortem examinations performed in the years 1910 to 1948, Bell clearly showed the great predominance of vascular disease in a diabetic group as compared to the nondiabetic.<sup>5</sup> Not only did he find that vascular disease was the cause of death in 47% of 1,214 diabetics, but he also estimated that gangrene developed 40 times as frequently in diabetics as in nondiabetics.

Warren and LeCompte<sup>6</sup> recently have reported from autopsy examinations of 816 diabetics that arteriosclerosis was present in all but 54 cases, of whom 39 were under 30 years of age. This represents a 98% incidence of arteriosclerosis in diabetics over age 30.

One would expect the incidence of vascular disease in the living diabetics to be somewhat less than in the fatal series, but with the methods of study available, the occurrence of vascular disease is nevertheless very high. Wilson, Root and Marble<sup>7</sup> demonstrated clearly in 247 patients with onset of diabetes under age 30 and with from 10 to 34 years' duration that the incidences of retinitis, of calcified



arteries in the legs, pelvis and aorta, and of renal disease *were greater* in those having only fair or poor control of diabetes.

The series of occlusions reported here is small, and sudden vascular occlusion of the upper extremity is clearly uncommon. Even though one of three admissions to this hospital is diabetic, its predominance in diabetics is impressive. Such predominance illustrates the greater incidence and extent of vascular disease in the diabetic. Although vascular occlusions of thrombotic or embolic origin were over five times as frequent in the diabetic series, one cannot predict such an incidence in any population picked at random. However, any otherwise unexplained occlusion should lead to a suspicion of diabetes mellitus.

Middle aged obese persons with diabetes are particularly prone to develop vascular occlusions. It is this very group in whom the diabetic state escapes detection or is labeled "mild" because symptoms of ketosis are absent, or because insulin requirements are low. The woman described above was one of these people, and yet only a few years later her "mild" diabetes became associated with diabetic neuritis, diabetic retinitis, occlusion of an axillary artery, myocardial changes by electrocardiogram and, finally, cerebral artery thrombosis.

#### SUMMARY

1. An instance of sudden major vessel occlusion in the arm of a diabetic patient is reported.
2. Similar occlusions recorded in 31 years of hospital admissions, including a nondiabetic and a large diabetic population, have been tabulated.
3. Sudden occlusion of a major vessel in the upper extremity is relatively rare, but when such an event occurs without evident cause, diabetes mellitus should be suspected.
4. The fallacy in labeling the obese, so-called "adult-type" diabetic as mild is illustrated by this woman, in whom widespread vascular disease has appeared at a comparatively early age.

#### SUMMARIO IN INTERLINGUA

In le experientia del Clinica Joslin a Boston, morbo periphero-vascular—usualmente manifeste in thrombose o, plus raramente, in embolismo de un vaso major—es un frequente complication de diabete mellite. Le majoritate de tal lesiones affice le extremitates inferior. Le occlusion de un vaso major serviente le extremitate superior ha esse extrememente rar, ben que gangrena de un extremitate superior requirente amputaciones in consequentia de un sever infection ha occurrite ante le disponibilitate de sulfonamidos o antibioticos in cinque casos. Gangrena ha etiam occurrite in altere sitos inusual—le collo, pelle, naso, lingua, pulmones, vulva, glande, e mesmo (plus recentemente) scroto. Sed iste sitos inusual esseva afficite quasi invariabilmente in consequentia de sever infectiones staphylococcal o streptococcal.

Recentemente le subite occlusion de un arteria major in le extremitate superior esseva observate in un patiente diabetic. Thrombose del dextere arteria axillari occurreva sin infection o trauma. Le patiente esseva un obesissime femina de 54 annos de etate con diabete de un duration de 15 annos. Illa habeva considerate su diabete como "leve" a causa del absentia de symptomas. Illa observava nulle dieta, trovava glycosuria in infrequente tests del urina, e non prendeva insulina durante 12 annos. Le observation de iste femina ante le occlusion arterial habeva jam confirmate le presentia de neuritis diabetic in le gamba dextere, de retinitis diabetic, de allar-

gamento cardiac, e de alterationes electrocardiographic del unda T que esseva indicative de ischemia myocardial. Post su complete recuperation ab le thrombose del arteria axillari, le patiente ha disveloppate un hemiplegia sinistre que es compatibile con thrombose de un medie arteria cerebral al latere dextere.

Le numero total del admissiones al New England Deaconess Hospital inter januario 1922 e januario 1954 esseva 169,240. Isto includeva 49,732 patientes con diabete. Esseva trovate un total de octo prime occlusiones de un arteria major in le extremitate superior, cinque in le serie diabetic e tres in le serie non-diabetic. Le occlusion esseva attribuite a thrombose in quatro del casos diabetic e a embolo in solamente un caso.

Le sequente punctos es sublineate in le presente reporto:

1. Le subite occlusion de un vaso major del extremitate superior es rar, sed si illo occorre sin causa evidente, le presentia de diabete mellite es a suspicer.

2. Le obese, si-appellate "adulte" typo de diabetic non deberea esser designate como suffrente de diabete in un forma "leve." Tal casos deberea esser tractate aggressivamente pro evitar le advenimento de extense morbo vascular como illo occorreva in le caso hic reportate.

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### HEMOLYTIC TRANSFUSION REACTION ASSOCIATED WITH THE TRANSFUSION OF "DANGEROUS UNIVERSAL DONOR" BLOOD \*

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THE hazards of "dangerous universal donor" blood have received considerable attention in recent years. Because of increasing awareness of this problem, and in the light of occasional serious and even fatal reactions caused by the emergency transfusion of blood or plasma containing high anti-A or anti-B antibody titers,<sup>1-4</sup> it has been recommended that some sort of screening procedure be employed in the selection of Group O blood suitable for transfusion to heterospecific recipients. A procedure commonly used is to test the capacity of the donor's serum diluted 1/200 in saline to agglutinate an equal volume of 2% saline suspension of Group

\* Received for publication October 1, 1954.

From the National Institutes of Health, Public Health Service, U. S. Department of Health, Education, and Welfare.

A or Group B red cells. If agglutination is found, the blood is classified as "high-titer" or "dangerous universal donor" blood, and its use is reserved for recipients known to be Group O. There is some variation among different laboratories as to the agglutinin titer used in the screening procedure and considerable variation as to the technic employed. Furthermore, it has been suggested by several authors that it is not the naturally occurring iso-agglutinin which is primarily responsible for the hemolytic reactions caused by "dangerous universal donor" blood, but rather the presence of "immune" antibodies.<sup>3, 4, 6-9</sup> Although there is a general tendency for elevation in "immune" antibody to accompany elevation in iso-agglutinin, this is not always the case.<sup>6, 8, 10</sup> Studies are now in progress in several laboratories to establish the correlation between various methods for antibody screening and to elucidate their relationship to clinical difficulties which may be encountered when "high titer" bloods are transfused to heterospecific recipients.

Despite increasing awareness of the existence of "dangerous" Group O bloods, and despite the known increase in the frequency of elevated antibody titers in the modern donor population as the result of routine immunizations (e.g., tetanus toxoid, T.A.B. vaccine—typhoid, paratyphoid A, paratyphoid B—known to contain A-like substance),<sup>8, 9, 11</sup> many blood banks employ no screening procedure whatsoever. Although there is an increasing effort to use type-specific blood, Group O Rh-negative blood is still widely utilized as the safest agent for emergency use when there is no time for grouping and cross-matching with the recipient. It is in this clinical situation that the serious hazard of a hemolytic transfusion reaction is ever-present if preliminary antibody screening tests have not been performed.

The following is the report of a case in which Group O Rh-negative blood, on which no screening procedure had been done, was transfused without cross-matching in the emergency treatment of a small boy seriously injured in an automobile accident. It emphasizes the hazards of "dangerous universal donor" blood, and illustrates several features of the clinical course and management of patients who have been subjected to these hazards.

#### CASE REPORT

The patient was a nine year old boy, admitted to an outside hospital in shock following serious injury in an automobile accident. His past history was not remarkable. The presenting clinical picture was one of visceral injury with internal bleeding. A catheterized urine was grossly bloody, and a ruptured kidney was suspected. Because of the patient's critical condition, a transfusion of 500 c.c. of Group O Rh-negative blood was started, without preliminary cross-matching, and the right kidney was explored surgically through an anterolateral transperitoneal approach. There was no evidence of intra-abdominal bleeding, but in the right perirenal tissue there was evidence of massive hemorrhage. A badly torn right kidney was removed, the local hematoma evacuated, and the abdomen closed. The transfusion was completed by the end of the surgical procedure, and no unusual reaction had been observed. Because of the patient's massive blood loss and because of persistent hypotension (blood pressure, 90/50 mm. of Hg), an infusion of 500 c.c. of reconstituted pooled lyophilized plasma was begun. The surgeon requested a second unit of whole blood to follow the plasma infusion, and the author was consulted about grouping and cross-matching procedures.

Samples of clotted and oxalated blood were obtained from the patient at 9:15 p.m., approximately one hour after completion of the initial O Rh-negative blood transfusion. Grouping and typing tests revealed that the patient was Group A Rh-positive (D-positive), and a background of unagglutinated Group O Rh-negative transfused cells was clearly visible. However, an attempt to cross-match the patient's post-transfusion blood with Group A Rh-positive donors proved impossible, with gross agglutination occurring on both the major and minor sides. (The technic used was: *major* 1 volume of a 2% suspension of donor cells in donor serum plus 1 volume of recipient's serum, and *minor* 1 volume of a 2% suspension of recipient cells in recipient serum plus 1 volume of donor serum; incubation was for 30 minutes at room temperature, followed by centrifugation at 1000 RPM for 2 minutes.) Because of the incompatibility on the major side, it was immediately evident that free anti-A agglutinin was present from the previous Group O transfusion. The minor incompatibility was understandable when it was found that centrifugation of the recipient's

TABLE 1  
Summary of Laboratory Findings

Blood Samples	Transfusion 500 c.c. Group O	Free Anti-A	Spont.* Agglut.	Dir. Coombs'	Bilirubin, mg. %	Hgb. gm. %	Urine Color	Jaundice	Miscellaneous
Day 1	"High titer" Rh-neg. blood	++++	Strong		Serum pale	8.0	Bloody	0	
Day 3	"Low titer" Rh-pos. cells	++++	Mod.	1/16	Serum yellow 1.3	7.2	"Brown"	Faint	
Day 6	"Low titer" Rh-pos. cells	+	0	1/8	Serum pale 0.5	12.2	Pale	0	Red cell count 4.26 mil. O cells 3.26 mil. A cells 1.0 mil.
Day 22		0	0	Neg.	Serum pale 0.3	12.5	Pale	0	B.U.N. 12 mg. % Urinalysis: Tr. albumin
4 months		0	0	Neg.	Serum pale 0.1	12.9	Pale	0	B.U.N. 20 mg. % Urinalysis: Neg.

Donor:                      Anti-A      Anti-B  
                  Agglut.:    1/1024    1/8  
                  Hemolysin:   1/48      0

\* 2% Suspension of patient's cells in own serum.

cells in their own serum resulted in coarse agglutination, presumably due to the coating of the patient's own cells by the transfused anti-A agglutinin from the original donor.

A hematocrit done on the oxalated sample was 25 (hemoglobin, 8.0 gm. %). The serum from the clotted sample was pale yellow, without suggestion of free hemoglobin or elevated bilirubin. Subsequent typing of the patient's own cells established that he was subgroup A<sub>2</sub>. Studies of his saliva showed him to be a secretor of A substance.

Because of the continued presence of strong free anti-A in the patient's serum it was decided to give him Group O red cells from which the plasma had been removed. (This donor blood had been "screened" and was known to have an anti-A agglutinin titer of less than 1/200. The major cross-match was compatible.) No group-specific A and B substance was immediately available, and so, after aspiration of all possible plasma, the top of the packed cell layer was washed with saline, the

saline discarded, and the cells were made up to 500 ml. volume with saline. The Group O cell suspension was transfused without untoward reaction.

The following day the patient's general condition was improved, but persistent pallor was noted. The urine was reported by the nurse to be "brown," but none was saved for laboratory examination. On the second postoperative day the patient's hemoglobin was reported to be 7.5 gm.%, and a third transfusion was requested. The nurse reported that copious urine during the past 24 hours had shown progressive lightening in color, from "brown" to a normal yellow.

At this time the patient appeared pale, and slightly icteric over the cheek bones. In rather poor light, the sclerae did not appear to be yellow. The blood showed the continued presence of free anti-A agglutinin, the direct Coombs' test was positive, and the serum appeared distinctly yellow as compared with the sample immediately post-operatively. To the packed cells from 500 ml. of "low-titer" Group O blood (after aspiration of all possible plasma) were added 3 ml. of group-specific A and B substance (Sharp and Dohme), and the volume was made to 500 ml. with saline. The cell suspension was transfused without incident.

Three days later the patient's condition was improved, with a sustained rise in hemoglobin. A transient left lower lobe pneumonic process responded promptly to

TABLE 2  
Results of Tests on the Donor's Serum

	Cells	Before Neutralization	Standard Neutralization	Complete Neutralization
Saline agglutinin	A <sub>1</sub> *A <sub>2</sub>	1,024 256-512	32 8	0 0
Albumin agglutinin	A <sub>1</sub> *A <sub>2</sub>	2,048 2,048	1,024 1,024	Not done
Hemolysin†	A <sub>1</sub> *A <sub>2</sub>	48 12	3 0	0 0
Indirect Coombs'	A <sub>1</sub> *A <sub>2</sub>		2,048 256	2,048 256

\* These were the patient's cells.

† As described by Crawford, et al.\*

oral Aureomycin. Urine output remained normal, and the patient was discharged home on the ninth hospital day.

Twelve days later the patient was apparently fully recovered. Blood urea nitrogen was 12 mg.%, urinalysis was essentially normal, and the hemoglobin and bilirubin had stabilized at normal levels.

He remained asymptomatic, returned to his normal activities, and was seen again four months later, by which time it would be expected that all of the transfused O cells had disappeared from his circulation. Routine hematologic and urinary studies were normal. The laboratory data for the patient's entire course are summarized in table 1.

At the time of this final visit various tests were done to compare the behavior of his A<sub>2</sub> cells with strong A<sub>1</sub> cells in the presence of freshly obtained serum from the original donor. The donor's serum was used in three ways: (a) as obtained; (b) after addition of the standard amount of group-specific A and B substance (i.e., .04 ml. per 1 ml. serum); and (c) after addition of sufficient A and B substance to inhibit completely the saline agglutinin. The results of titrations of these three serum mixtures against the two types of cells are summarized in table 2.

*The Group O Rh-negative Donor:* The donor was a 40 year old male office worker who had never received a transfusion. His only immunizations had been the routine Army inoculations given during his World War II service. He had not been wounded, and had not received any "booster" shots since his discharge from the Army over six years before. (See table 2 for serologic studies performed on his blood.) According to accepted criteria,<sup>8</sup> he would be classified as a "dangerous universal donor" on both the agglutinin and the hemolysin titers against A<sub>1</sub> cells (upper limits, 1/200 and 1/12, respectively). Routine studies against B cells revealed a saline agglutinin of 1/8, hemolysin negative.

#### DISCUSSION

There were two factors predisposing this patient to a serious hazard from the transfusion of this bottle of "dangerous universal donor" blood. The first was his small size; he weighed 27 kg., and the transfusion of 500 ml. of blood was roughly equivalent to 25% of his total circulating blood volume. He thus received a very large dose of antibodies relative to his body size (equivalent to transfusion of at least 1,000 ml. of "dangerous universal donor" blood to a normal adult). Second, he was recovering from a period of hypotensive shock and was dependent entirely upon the continued functioning of his single remaining kidney.

By good fortune, there were two factors in this patient's favor, which probably accounted for his successful recovery from what might otherwise have been a fatal incompatibility reaction. First, and of primary importance, he was a subgroup A<sub>2</sub> and his cells therefore reacted less violently upon exposure to the large dose of donor agglutinin and hemolysin. This may also have been a contributing factor to the persistence of free anti-A in the patient's serum (lasting up to six days after the transfusion). Second, he had suffered a profound loss of blood prior to the transfusion, thus considerably diminishing the concentration of his own cells present in the circulation at the time of the transfusion.

These compensating factors contributed to his experiencing a relatively mild and gradual hemolytic reaction, evidenced by the dark urine, slight decline in hemoglobin despite the second transfusion of resuspended Group O cells, low grade icterus, and the slight elevation in bilirubin, which then fell to normal levels during the ensuing week. The presence of a positive Coombs' test is confirmatory of the sensitization of the patient's cells by the "immune" antibody in the donor blood. On the sixth day, by differential agglutination (after Dacie and Mollison,<sup>12</sup> using powdered anti-A globulin, Lederle & Co.), it was shown that 75% of the cells in the patient's circulation were Group O. Thus the patient had lost three fourths of his own red cells due to the combined effects of blood loss and hemolysis.

Another factor in this patient's course was of great importance. The cross-matching of blood for the *second* transfusion was done using a blood sample drawn from the patient *after completion of the first non-cross-matched* transfusion. This blood sample, with its evidence of spontaneous agglutination and with the presence of free anti-A making impossible the compatible cross-matching of Group A donor blood, revealed the fact that "dangerous universal donor" blood had been given. This knowledge dictated the use of packed O cells in the treatment of the patient's persistent anemia, and spared him the dangers of acute intravascular hemolysis which could have occurred following the transfusion of Group A<sub>1</sub> blood. Grove-Rasmussen et al.<sup>13</sup> have reported a serious transfusion reaction



in precisely this situation, i.e., A<sub>2</sub> recipient given 500 ml. of "dangerous donor" blood without immediate reaction, but suffering an acute hemolytic reaction upon subsequent transfusion of 1,500 ml. of Group A<sub>1</sub> blood, with massive destruction of the transfused A<sub>1</sub> cells. This emphasized the absolute necessity of obtaining a *fresh* blood sample for cross-matching from any patient who has previously received emergency Group O blood without cross-matching.

The use of Group O blood in the immediate treatment of these cases follows naturally from the above. Its importance has recently been stressed in a report of the treatment of Korean battle casualties.<sup>14</sup> Group O cells will not be susceptible to destruction from exposure to any free anti-A agglutinin and immune antibody that may be present. "Low titer" Group O blood should be used, and as much plasma as possible should be removed, to avoid increasing the titer of free anti-A in the patient's serum, which might increase the destruction of the patient's own cells. If considerable plasma is left with the cells, or if whole blood is necessitated by the patient's condition, group-specific A and B substance should be added (10 ml. to each 500 ml. of "low titer" Group O blood) to reduce the anti-A agglutinin titer of the donor plasma. There has been very little experience with the use of A and B substance as a therapeutic agent per se in this condition. It has been shown that the dose of A substance that will completely abolish the hemolytic property of a serum will not affect the serum's capacity to agglutinate cells in serum or to sensitize cells to anti-human-globulin.<sup>4</sup> (See also Table 2.) Furthermore, the B substance coincidentally administered will cause a sharp rise in the recipient's anti-B iso-agglutinin titer. With these facts in mind, cautious administration of the group-specific substances may be warranted in selected cases.

Finally, it should be pointed out that if any of the commonly accepted screening procedures had been used on the original Group O Rh-negative donor blood in this case, its high antibody content would have been recognized and its indiscriminate use in this emergency could have been avoided. In a group A<sub>1</sub> child of this size, with a single remaining kidney, such a transfusion might well have resulted in a fatal outcome.

#### SUMMARY

1. A low grade hemolytic reaction in a Group A<sub>2</sub> recipient is described following the transfusion of "dangerous universal donor" blood.
2. The presence of a positive direct Coombs' test and the persistence of free anti-A agglutinin in the recipient's serum for six days after the transfusion are recorded.
3. The use of resuspended Group O cells in the subsequent treatment of anemia in this patient is discussed.
4. The importance of obtaining a *fresh* sample of blood for subsequent cross-matching from patients who have received "universal donor" blood as emergency therapy is stressed.
5. The necessity for adequate screening procedures in the selection of *safe* universal donor blood is reemphasized.

#### ACKNOWLEDGMENT

The author expresses his appreciation to Dr. J. W. Bird for his permission to publish the details of the patient's clinical course.

## SUMMARIO IN INTERLINGUA

Es describe le reaction hemolytic de un novenne recipiente del gruppo A<sub>s</sub> post transfusion de sanguine ab un "periculose dator universal." Datos notabile esseva le presentia de un positive test directe de Coombs e le persistentia de libere agglutina anti-A in le sero del recipiente durante sex dies post le transfusion. Nulle technica selective habeva essite applicate al sanguine del dator. Subsequentemente il esseva monstrate per le technicas salin, albuminic, coombsian, e hemolysinic que le sanguine del dator habeva anticorpores anti-A a alte titro. Es discute le uso de resuspendite cellulas de gruppo O in le subseque tractamento pro anemia in le caso de iste patiente. Nos sublinea le importantia de obtener un *nove* specimen de sanguine, pro le subseque "combination cruciate," ab patientes qui ha recipite sanguine de un "dator universal" como transfusion de urgentia. Es presentate un revista del conceptos currente in re le relative importantia clinic de anticorpores "occurrente naturalmente" e de anticorpores "immun" in le systema A-B-O. Le rolo predominante del anticorpores "immun" es sublineate. Nos re-affirma le necessitate de adequate tests de secernage del anticorpores in le selection de sanguine innocue ab "datores universal."

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## EDITORIAL

### *THE VALUE OF STEROIDS IN THE TREATMENT OF RHEUMATOID ARTHRITIS*

THE remarkable effects of corticotropin and cortisone in ameliorating the manifestations of rheumatoid arthritis, as first reported by Hench and his associates, undoubtedly marked a major advance in the treatment of this disease. Their observations have been amply confirmed. Adequate doses of cortisone, temporarily within the tolerance of the subject, will quickly relieve the pain and dissipate the evidences of acute inflammation in 95 per cent of the cases. The early enthusiasm was soon chilled, however, by the serious adverse effects caused by full doses of the drug and by the promptness and great regularity with which relapse followed an interruption or a marked reduction in the dose.

It quickly became apparent that treatment carried on for a few weeks or months did not effect a cure nor, with possible rare exceptions, a substantial remission. If more was to be accomplished than a brief tantalizing period of relief from pain, some schedule of dosage was required which could be continued for years if not indefinitely and which would give a tolerable degree of relief without serious adverse reactions.

In spite of the fact that cortisone has been used extensively for four to five years and administered to thousands of patients, the number who have been properly treated and adequately studied over long periods is still surprisingly small. There is correspondingly much difference in the degree of enthusiasm or lack of it on the part of different observers regarding the value of the drug. Several careful studies have been reported, however, which make some tentative conclusions possible, although the number of patients observed is still inadequate.

There is general agreement that continuous protracted treatment is usually necessary and that only partial control can be hoped for with doses which do not excite serious adverse reactions. This was evident even in the earlier investigations. Thus Freyberg et al.<sup>1</sup> reported a study of 48 treated patients observed for a period of from 100 days to a year. In 24 treatment was terminated, because of adverse reactions in six and "by choice" in 18—chiefly because of dissatisfaction with the degree of relief obtained. When treatment was interrupted in the rest, the majority relapsed to their previous condition within three weeks and only four (17 per cent) maintained a remission for more than two months.

Boland<sup>2</sup> obtained only slightly better results in a series of 76 cases, of

<sup>1</sup> Freyberg, R. H., et al.: Problems of prolonged cortisone treatment for rheumatoid arthritis, *J. A. M. A.* 147: 1538-1543, 1951.

<sup>2</sup> Boland, E. W.: Prolonged uninterrupted cortisone therapy in rheumatoid arthritis, *Brit. M. J.* 2: 191, 1951.

whom 60 were treated and followed satisfactorily for from six to 15 months. In 20 per cent the results were unsatisfactory because of adverse reactions or inadequate response. In 80 per cent significant improvement was obtained while treatment was continued. However, variations in response attributed to fluctuations in the severity of the disease and adverse reactions of mild to moderate severity required close supervision and frequent readjustment of the dose. They found that additional therapeutic procedures were required in most cases and concluded that cortisone was "not the treatment of choice for most cases and not a cure for any case."

Price<sup>3</sup> in a series of 65 cases followed for a substantial period (45 over two years) observed that "as long as the optimum dose was maintained the prolonged use of these drugs resulted in continued improvement in the majority of patients" (74 per cent of 65).

Hench and associates<sup>4</sup> have reported a series of 56 cases treated uninterruptedly with cortisone and observed for from eight to 24 months. Cortisone was discontinued in 10 of these (in eight because of adverse effects; in two, inadequate relief). Of the 46 cases continuing treatment, "great" or "marked" relief was obtained in 25 and lesser degrees of improvement in 21. They regarded cortisone as indicated in patients not responding promptly to the usual nonspecific measures provided no contraindication exists. They give excellent detailed instructions as to dosage of cortisone, indications and contraindications for its use and management of the adverse reactions.

In Great Britain, West et al.,<sup>5</sup> on the basis of a series of 27 patients treated for an average of 19 months, concluded that cortisone did not have a favorable effect on the course of the disease and that the dangers outweighed any temporary benefits and contraindicated its long continued use. Copeman et al.<sup>6</sup> obtained somewhat better results in a series of 20 cases treated from one to three years. Seventeen were able to return to work of some sort, and they regarded continuous administration of cortisone as "a practical addition to treatment" provided supervision is adequate, but not a cure. Relapses occurred promptly when treatment was stopped. They found in roentgenograms no improvement of eroded bone or cartilage, and in eight cases these lesions progressed even though the subjects showed clinical improvement. A similar progression of destructive osseous lesions in a large proportion of patients under treatment has been reported by Bollet and Bunim.<sup>7</sup>

<sup>3</sup> Price, A. E., et al.: Observations on use of cortisone and corticotropin in rheumatoid arthritis, *J. Michigan M. Soc.* 51: 1183, 1952.

<sup>4</sup> Ward, L. E., Polley, H. F., Slocumb, C. H., and Hench, P. S.: Cortisone in treatment of rheumatoid arthritis, *J. A. M. A.* 152: 119-126, 1953.

<sup>5</sup> West, H. F., and Newns, G. R.: Some effects of long-continued cortisone therapy in rheumatoid arthritis, *Lancet* 2: 515-517, 1952.

<sup>6</sup> Copeman, W. S. C., et al.: Management of rheumatoid arthritis with prolonged cortisone administration, *Brit. M. J.* 1: 1109-1113, 1954.

<sup>7</sup> Bollet, A. J., and Bunim, J. J.: The importance of serial joint x-rays in the evaluation of treatment of rheumatoid arthritis, *M. Clin. North America* 39: 439-445, 1955.

Holbrook<sup>8</sup> has reported comparative studies of patients treated with "maximum safe" doses of ACTH and cortisone and those receiving only minimum doses. In the group in which large doses were attempted, after four years only 5 per cent showed improvement. Of 60 patients treated with minimal effective doses, 54 maintained "worthwhile" improvement for a year and 26 (43 per cent) after four years. Most of these were advanced cases, and the degree of improvement seems to have been modest. Used in this way cortisone was regarded as a valuable aid in rehabilitation, but in severe acute illness it was less effective. Holbrook emphasizes the devastating emotional shock to the patient when the early "miraculous" improvement is followed by gradual but inexorable deterioration and physical disintegration that occur in so many cases, when the dose of cortisone has to be curtailed or stopped.

Bunim et al.<sup>9</sup> have recently reported a study of 78 cases treated continuously for from a few weeks to six years with small doses of cortisone. The early results were excellent, 75 per cent showing "marked" improvement at some time during treatment. Eighty per cent of 31 incapacitated patients became able to care for their person. Of 64 cases observed at the end of the study, 28 were still under treatment, five had died and 31 had discontinued, many because of adverse effects or disappointing results. The results in general were good, however, as 31 had obtained some degree ("minor") of improvement, 20 a major improvement, and 16 were in remission clinically. In all 16 cases the remission had been maintained for at least a year, and none had relapsed although all cases not clinically in remission relapsed promptly when treatment was stopped. This is a larger proportion of sustained remissions than reported in any other series of treated cases that the reviewer has found although occasional remissions are noted. In fact Holbrook<sup>8</sup> was so struck by the absence of such remissions that he suggested that cortisone might prevent them by interfering with the natural processes of immunity and repair.

As Bunim pointed out, however, the 23 per cent of remissions in his series is not notably different from the 13 per cent (Short and Bauer<sup>10</sup>) to 32 per cent (Ragan<sup>11</sup>) reported in earlier series in which no specific treatment (gold or steroids) was used. One gets the impression, however, that the remissions in the treated cases came earlier and clinically were more clear cut and definite than might have been expected without specific measures. Much depends upon the case material—"marked improvement" or better was obtained far more frequently in younger individuals in an acute

<sup>8</sup> Holbrook, W. P.: Cortisone, ACTH and phenylbutazone in long term therapy of rheumatoid arthritis, *M. Clin. North America* 39: 311-318, 1955.

<sup>9</sup> Bunim, J. J., et al.: Evaluation of prolonged cortisone therapy in rheumatoid arthritis, *Am. J. Med.* 18: 27-40, 1955.

<sup>10</sup> Short, C. L., and Bauer, W.: The course of rheumatoid arthritis in patients receiving simple medical and orthopedic measures, *New England J. Med.* 238: 142, 1948.

<sup>11</sup> Ragan, C.: Rheumatoid arthritis, *Bull. New York Acad. Med.* 27: 63-74, 1951.

stage, with reversible lesions, treated within a year of onset, than in long standing cases with badly damaged joints.

Finally there is a report by Toone et al.<sup>12</sup> of 35 cases similarly treated for one to three years. During the first year of treatment 16 of the 35 discontinued cortisone, nine because of adverse reactions and seven because of inadequate relief. During the second year, for similar reasons six of the remaining 19 stopped and two more during the third year. Of the 11 remaining, seven were so far improved that they were employable and four obtained only some slight palliation of their discomfort. There was no remission, and relapse followed promptly in every case discontinuing treatment. There were five deaths, in three of which cortisone was thought to have played some part.

It is evident from this incomplete review that the early enthusiasm and high hopes of curing rheumatoid arthritis with cortisone (or ACTH) have been pretty thoroughly deflated. There is still a question as to how much of practical value can yet be salvaged. It is certain that these steroids merely suppress and mask the manifestations of the disease, they do not arrest it, do not prevent the successive involvement of additional joints nor halt the progressive disintegration of cartilage and bone. Subcutaneous fibroid nodules persist and may first appear or increase in number during treatment.

There is no good evidence of any adrenal cortical insufficiency in this disease, and the administration of cortisone does not supply a lack but produces a state of artificial "hyperadrenalcorticism." The various adverse effects commonly observed in this state are present in full measure in patients with rheumatoid arthritis. Attempts to treat intensively for short periods or by interrupted courses have been quite unsatisfactory, and continuous treatment with doses which are adequate to control symptoms fully are usually tolerated for only a short time. Attention has therefore been concentrated on finding a dose which can be tolerated for long periods and yet maintain a state of comparative comfort and activity. This has been accomplished in only a fraction but still a significant fraction of the cases.

Evaluation of the results of treatment is complicated by a lack of adequate controls. The natural course of the disease, although protracted, is so marked by unpredictable fluctuations in severity and occasionally by spontaneous remissions that assessment of the part played by specific therapy is very difficult. The results furthermore depend in large measure upon the acuteness and severity of the disease, the amount of permanent damage suffered, the care with which patients are supervised and controlled, the effective use of physical therapy and other measures, and the skill, diligence and zeal of the attending physicians. The latter is probably one explanation for the relatively good results obtained by Hench and his group. If tolerable control can be obtained with daily doses in the range of 35 to 75 mg. (100 mg. as a maximum), the adverse effects though often annoying are usually

<sup>12</sup> Toone, E. C., Jr., and Irby, R.: Effect of cortisone in the long term treatment of rheumatoid arthritis, *Am. J. Med.* 18: 41-50, 1955.



much less severe. Disturbance of electrolytes can usually be controlled, but watch must still be kept for such complications as hypertension, glycosuria, emotional upheavals, peptic ulcer (of which perforation may be the first manifestation), osteoporosis and pathological fractures. As indicated by the reports summarized, from one third to two thirds of the patients can be carried along for at least two to four years on such a program, although many have discontinued treatment because of dissatisfaction with the degree of improvement.

It is generally agreed that merely administering steroids is not adequate treatment for rheumatoid arthritis. This should be merely part of a program of general upbuilding and rehabilitation which would include suitable physical therapy and orthopedic procedures. Many believe that the chief value of the steroids is to facilitate the utilization of such procedures and that over the long term they play a secondary and relatively minor rôle. Certainly dismissing the patient with a bottle of cortisone pills is not only inadequate treatment but is positively damaging. In actual practice, however, it is often difficult or even impracticable to treat a patient outside a hospital without using these drugs. A vigorous effort must therefore be made to use them properly, even though the supervision and the accessory therapeutic measures required are costly and the time and effort involved are a severe tax on both patient and physician. The weight of evidence now favors the view that if properly used, cortisone has some real though much restricted value.

The hope for some better preparation seems to have been realized in some slight measure by the synthesis of the closely related drugs prednisone (metacortandracin, Meticorten) and prednisolone. Several preliminary reports are now available as to their immediate effects and those over a short term. In brief, these drugs seem to exert the same suppressive and ameliorating effect as cortisone (Bunim et al.<sup>13</sup>) and even in greater degree (Margolis et al.<sup>14</sup>) in a dose one fourth as great but usually with prompt relapse when administration is stopped. It is hoped that their adverse effects will not be correspondingly increased. The only real advantage thus far definitely demonstrated for prednisone, however, is that it causes much less disturbance of electrolytes than cortisone (Demartini et al.<sup>15</sup>) so that a low salt diet, diuretics and supplementary potassium salts are rarely needed. Many of the other adverse effects, however, have already been encountered, including emotional disturbances or toxic psychoses, hyperglycemia, epigastric distress and peptic ulcers, perhaps even more frequently than with cortisone.<sup>14, 16</sup> As with cortisone, the administration of prednisone causes

<sup>13</sup> Bunim, J. J., et al.: Studies on metacortandralone and metacortandracin in rheumatoid arthritis, *J. A. M. A.* **157**: 311-318, 1955.

<sup>14</sup> Margolis, H. M., et al.: Effects of prednisone (Meticorten) on manifestations of rheumatoid arthritis, *J. A. M. A.* **158**: 454-463, 1955.

<sup>15</sup> Demartini, F., et al.: Comparative effects of prednisone and cortisone, *J. A. M. A.* **158**: 1505-1508, 1955.

<sup>16</sup> Bollet, A. J., et al.: Major undesirable side-effects resulting from prednisolone and prednisone, *J. A. M. A.* **158**: 459-463, 1955.

a temporary depression of adrenal cortical function, and abrupt withdrawal may be followed by a sharp relapse and severe constitutional reaction.<sup>13</sup> Until data as to its effects over a long period are obtainable, we may conclude only that prednisone offers some significant advantages over cortisone with no notable disadvantages thus far recognized and may well replace cortisone in actual practice. This advance, however, promises at best to be only a modest one, since prednisone suffers from the same limitations as cortisone and causes similar adverse reactions, albeit in somewhat milder degree. Little more than this can probably be anticipated until the etiology of the disease is adequately understood.

PAUL W. CLOUGH, M.D.

*Addendum:* Since this editorial was submitted, Spies and his associates (J. A. M. A. 159: 645-652 (Oct. 15) 1955) have reported that the simultaneous administration of salicylates increases the effectiveness of the steroids as a palliative measure and in most patients makes possible a substantial reduction of the maintenance dose. This promises to prove of great practical importance in avoiding adverse reactions, and it should get extensive and adequate trial in other clinics.

## REVIEWS

*The Adolescent Exceptional Child, a Realistic Approach to Treatment and Training:* Proceedings of the 1954 Spring Conference of the Child Research Clinic of the Woods Schools, held in New Orleans, Louisiana, April 9 and 10, 1954, in three sessions. 78 pages; 23 × 15.5 cm. (paper-bound). Child Research Clinic, The Woods Schools, Langhorne, Pennsylvania. 1954.

This is a small pamphlet reporting a conference held in New Orleans in April, 1954, by the Woods Schools in coöperation with the Tulane University School of Medicine, the Louisiana Association for Retarded Children, the Division of Special Services of the New Orleans Public Schools and others.

The object of the conference was to exchange information and to discuss modern methods of helping the exceptional child develop his own resources and skills. The papers, as well as the panel discussions, are printed in full.

This pamphlet is useful in giving an up-to-date picture of the problems presented by the adolescent exceptional child in our culture, and of the methods of modern education and psychology in dealing with them.

Copies of the pamphlet are available without charge from the Child Research Clinic of the Woods Schools, Langhorne, Pennsylvania.

H. W. N.

*Clinical Toxicology.* 3rd Ed. By CLINTON H. THIENES, M.D., Ph.D., and THOMAS J. HALEY, Ph.D. 457 pages; 14 × 20 cm. Lea & Febiger, Philadelphia. 1955. Price, \$6.50.

This book is designed as a quick reference guide for physicians on the symptoms, diagnosis and treatment of poisoning. It has been used as a classroom text for courses in toxicology for students of pharmacology, pharmacy, public health, industrial medicine and forensic medicine. Poisons are grouped according to their major toxic action, e.g., cerebral convulsants, muscle poisons, etc. There are four chapters devoted to principles of treatment, a chapter on symptom diagnosis and an extensive section (152 pages) on chemical diagnosis of poisoning. Detailed methods of analyses are given for the identification of the major poisons with a bibliography. The authors state that many of the tests have been proved in their own laboratories.

For a text that has been designed for use by the practitioner confronted with a case of poisoning the index might have been more extensive although most of the newer industrial poisons and new drugs have been included. Page numbers in lieu of cross references in the index might be time-saving for quick information in an emergency.

The third edition of this book will find the continued wide acceptance that the previous editions enjoyed. It can be suggested as a very useful addition to the library of the practicing physician.

C. JELLEFF CARR

*A Primer of Electrocardiography.* 3rd Ed. By GEORGE E. BURCH, M.D., F.A.C.P., and TRAVIS WINSOR, M.D., F.A.C.P. 286 pages; 15.5 × 24 cm. Lea & Febiger, Philadelphia. 1955. Price, \$5.00.

This is the third edition of a widely used book on electrocardiography. Included are chapters on the principles of electrocardiography, an analysis of various components of the electrocardiogram and their clinical significance, precordial leads, disorders of the heart beat, clinical applications of the electrocardiogram, and an appendix containing various standards, axis charts, and diagnostic electrocardiographic criteria.

There has been no change in the basic style and plan of the book. New material has been included on precordial chest leads, unipolar limb leads, the spatial vectorcardiogram, electrolyte alterations, and other fields.

The book is profusely illustrated and well printed. It is unfortunate that some illustrations have been incorrectly labelled and legends misplaced. The beginner in electrocardiography is likely to become confused by the terminology used in the localization of infarctions. Such terms as inferior, diaphragmatic, posterior, and strictly posterior could be more adequately discussed. As in former editions, there is no bibliography. Despite these criticisms, this edition should be included among the valuable texts on electrocardiography.

L. S.

*Lectures on the Thyroid.* By J. H. MEANS, M.D., Jackson Professor of Clinical Medicine Emeritus, Harvard University. 113 pages; 14.5 × 21.5 cm. Harvard University Press, Cambridge, Mass. 1954. Price, \$3.00.

The monograph is a collection of Guest Lectures given by the author, at various places throughout the years 1949 to 1953. As such, it is a natural sequel to Dr. Means' text, *The Thyroid and Its Diseases*, and brings many items of that book up to date in the ever changing field of thyroid physiology, pathology and therapy.

Any publication by Dr. Means is worth reading and monographs such as this are destined to be collectors' items. A worthwhile addition to the library of any internist.

J. B. W.

*Lehrbuch der inneren Medizin.* 3., verbesserte Auflage; Baende I und II. Herausgegeben von PROF. DR. H. DENNIG, Stuttgart. 1048 and 1042 pages; 18 × 24.5 cm. Intercontinental Medical Book Corp., New York 16, N. Y. 1954. Price, each volume, DM 49.80.

This is the third edition of a two-volume text on medicine which is predominantly addressed to the medical student and general practitioner. As in the previous editions, the text is an excellent blend of description of abnormal physiology sufficient to understand the diseases discussed, presentation of signs and symptoms and a basic outline of therapy. The editors and authors have created a well-integrated text, giving an up-to-date discussion of essentially all branches of internal medicine. It is understandable that emphasis in certain fields differs from that given in the United States. Chapters on infectious diseases reflect well the changes brought about by chemo- and antibiotic therapy. Tropical diseases find only a brief discussion. Pulmonary diseases, endocrine disorders and vitamin deficiencies are presented clearly and concisely. The cardiovascular section previously written by the late Professor F. Schellong has been reedited by Dr. Grosse-Brockhoff.

The discussion of diseases of the digestive system and urinary tract-renal diseases is particularly good and useful. Chapters on the musculo-skeletal, nervous and allergic disorders complete the text.

Signs, symptoms and management are too briefly discussed to be really useful. Dr. Dennig discusses principles of diagnosis and treatment in a closing chapter.

The general impression of the text is favorable. Although concise, the discussion of all aspects of disease is given clearly and with greater detail than one is accustomed to from the standard one volume American text in internal medicine.

The book is up-to-date, well-integrated and indexed, and clearly written.

Printing is done with very great care and of fine quality, particularly the photographs, diagrams, roentgenograms and colored plates.

A. G.

*The Physician and the Law.* By ROLAND H. LONG; Foreword by MILTON HELPERN, M.D. 284 pages; 14.5 × 21.5 cm. Appleton-Century-Crofts, Inc., New York. 1955. Price, \$5.75.

This 284 page manual on *The Physician and the Law* is written by a well-known attorney with two purposes in mind: to bring to the practicing physician knowledge of those spheres in which the law will impinge upon his practice and the way he conducts it and to aid the physician who will appear in court by providing an understanding of the aims and procedures of the courts. It is written primarily for the use of physicians but, in this reviewer's opinion, provides such good coverage of the variety of medicolegal problems that it will be quite as useful to the legal profession.

It is divided into eighteen chapters, the first six of which deal with the legal requirements in the practice of medicine and the cause of malpractice actions. The seventh chapter deals with medicolegal pathology and the role of the Medical Examiner in determining cause of death. It is an excellent abstract and condensation of chapters from the standard text book in this field edited by Gonzales, Vance, Helpern and Umberger. Other chapters cover blood group tests, artificial insemination, adoption, licensure, privileged communications, expert testimony and other medicolegal fields.

The book is plainly written, up-to-date, contains many case citations, is annotated for ease in finding the original case and the format is excellent. It fills a much needed deficiency as a text book of legal medicine for the medical student as well as a handy reference for the established practitioner.

RUSSELL S. FISHER, M.D.

#### BOOKS RECENTLY RECEIVED

Books recently received are acknowledged in the following section. As far as practicable those of special interest will be selected for review later, but it is not possible to discuss all of them.

*Aspects of Allergy Research. Transactions of the Collegium Internationale Allergologicum: First Symposium in London, October 12th-16th, 1954.* Edited by D. HARLEY, London, and P. KALLÓS, Helsingborg. 395 pages; 25 × 17.5 cm. (paper-bound). 1955. S. Karger, Basel. Price, \$6.50.

*Cancer Cells.* By E. V. COWDRY, Director, Wernse Cancer Research Laboratory, Washington University, St. Louis, etc. 677 pages; 25.5 × 16.5 cm. 1955. W. B. Saunders Company, Philadelphia. Price, \$16.00.

*Clues in the Diagnosis and Treatment of Heart Disease.* Publication Number 242, American Lecture Series. By PAUL D. WHITE, M.D. (A monograph in the Bannerstone Division of American Lectures in Circulation, edited by IRVINE H. PAGE, M.D., Cleveland Clinic, Cleveland, Ohio.) 186 pages; 22.5 × 14.5 cm. 1955. Charles C Thomas, Publisher, Springfield, Illinois. Price, \$5.50.

*High Blood Pressure.* By GEORGE WHITE PICKERING, M.A., M.B. (Cantab.), M.D. (Ghent), F.R.C.P., Professor of Medicine in the University of London, etc. 547 pages; 24.5 × 15.5 cm. 1955. Grune & Stratton, New York. Price, \$9.50.

*La Hipoproteïnemia en los Enfermos Quirúrgicos: Potasio en los Pacientes Quirúrgicos.* Separata del Primer Tomo del II Congreso Venezolano de Cirugía. By J. D. LEONARDI. 148 pages; 23 × 16 cm. (paper-bound). 1955. Imprenta Nacional, Caracas.

*Joint FAO/WHO Expert Committee on Nutrition: Fourth Report. World Health Organization Technical Report Series No. 97.* 58 pages; 24 × 16 cm. (paper-bound). 1955. World Health Organization, Geneva; available in U.S.A. from

- Columbia University Press, International Documents Service, New York. Price, 60¢.
- "Krebsozen": The Great Cancer Mystery.* By GEORGE D. STODDARD. 282 pages; 21.5 × 14 cm. 1955. The Beacon Press, Boston. Price, \$3.50.
- A New Classification of Tuberculosis, With New Diagnostic Standards.* By MILOSH SEKULICH, M.D.; edited by H. STANLEY BANKS, M.D., F.R.C.P. 63 pages; 21.5 × 14 cm. (paper-bound). 1955. William Heinemann, Medical Books, Ltd., London. Price, 3/6d net.
- Office Procedures.* By PAUL WILLIAMSON, M.D. 412 pages; 28 × 20.5 cm. 1955. W. B. Saunders Company, Philadelphia. Price, \$12.50.
- Peptic Ulcer: Diagnosis and Treatment.* By CLIFFORD J. BARBORKA, M.D., M.S., D.Sc., F.A.C.P., Associate Professor of Medicine and Chief, Gastrointestinal Clinics, Northwestern University Medical School, etc.; and E. CLINTON TEXTER, JR., M.D., Associate in Medicine and Assistant Chief, Gastrointestinal Clinics, Northwestern University Medical School, etc. 290 pages; 22 × 14.5 cm. 1955. Little, Brown and Company, Boston. Price, \$7.00.
- Polycythemia: Physiology, Diagnosis and Treatment Based on 303 Cases.* Modern Medical Monographs 13. By JOHN H. LAWRENCE, M.D., D.Sc., F.A.C.P., Director, Donner Laboratory, Professor of Medical Physics, and Physician-in-Chief, Donner Pavilion, University of California, Berkeley. 136 pages; 22.5 × 14 cm. 1955. Grune & Stratton, New York. Price, \$5.50.
- A Road Map for the Medical Examiner.* By LELAND T. WAGGONER, C.L.U. 23 pages; 15.5 × 11.5 cm. (paper-bound). 1955. The Insurance Research & Review Service, Indianapolis. Price, 50¢.
- Spezielle Therapie der Blutkrankheiten.* By PROF. DR. HANS GOLDECK. 235 pages; 24.5 × 16.5 cm. 1955. Ferdinand Enke Verlag, Stuttgart. Price, Geheftet DM 32.; ganzleinen DM 35.-
- Studies in the Functions and Design of Hospitals: The Report of an Investigation Sponsored by the Nuffield Provincial Hospitals Trust and the University of Bristol.* 192 pages; 25.5 × 31.5 cm. 1955. Oxford University Press, New York. Price, \$15.00.
- Textbook of Endocrinology.* 2nd Ed. Edited by ROBERT H. WILLIAMS, M.D., Executive Officer and Professor of Medicine, University of Washington Medical School, Seattle; Contributors: WILLIAM H. DAUGHADAY, PETER H. FORSHAM, HARRY B. FRIEDGOOD, JOHN EAGER HOWARD, EDWARD C. REIFENSTEIN, JR., WILLIAM W. SCOTT, GEORGE VAN S. SMITH, GEORGE W. THORN, LAWSON WILKINS and ROBERT H. WILLIAMS. 776 pages; 24.5 × 16 cm. 1955. W. B. Saunders Company, Philadelphia. Price, \$13.00.
- Transactions of the 14th Conference on the Chemotherapy of Tuberculosis, Held on February 7 through 10, 1955, at the Fulton County Medical Society, Atlanta, Georgia, by the Veterans Administration: Army: Navy, with the Cooperation of the National Tuberculosis Association.* 556 pages; 26 × 20 cm. (paper-bound). 1955. Prepared and edited by the Veterans Administration Area Medical Office, Atlanta, Ga., and the Department of Medicine and Surgery, Central Office, Washington, D. C. No charge.



## COLLEGE NEWS NOTES

### SUMMARY REPORT ON THE THIRTY-SIXTH ANNUAL SESSION OF THE COLLEGE

The Thirty-Sixth Annual Session of the American College of Physicians, held at Philadelphia, under the Presidency of Dr. Cyrus C. Sturgis and the General Chairmanship of Dr. Thomas M. Durant, was the largest meeting in gross registration in the history of the College. There were in attendance 2,681 members, 1,725 guest physicians, 44 guest non-physicians, 477 medical students (restricted to seniors), 634 exhibitors, and 819 ladies; grand total, 6,380.

The program followed the pattern of the College programs for the past few years, including five afternoon General Sessions, with no competing features; a series of Morning Lectures and Symposia from 9:00 a.m. to 11:00 a.m.; Televised Hospital Clinics from 9:00 a.m. to 11:00 a.m.; Hospital Clinics at various hospitals or at the Convention Hall on two mornings, 9:00 a.m. to 11:00 a.m.; Panel Discussions daily from 11:40 a.m. to 1:00 p.m.; a series of Clinical-Pathological Conferences and a Clinical-Physiological Conference also from 11:40 a.m. to 1:00 p.m. For a medical meeting so largely attended, it is obvious that the Program Committee must distribute the attendance by offering optional program features running concurrently. The programs of these competing features proved so popular that many members lamented the fact that they could not be at two places at the same time. Consensus was that the entire scientific as well as social program was the most outstanding in the College history. That is obvious from the fact that more than 30 per cent of the entire College membership was in attendance. It is exceptional for more than 10 per cent of the membership of large, national medical societies to be present at their annual meetings. The only program features that were not well attended were the Hospital Clinics, a program feature which appears to grow less popular in more recent years. Perhaps the Hospital Clinics are becoming outmoded since the introduction of Color Televised Clinics, Panel Discussions, Clinical-Pathological Conferences, etc.

Among the social features were the following: a free Symphony Concert by the Philadelphia Orchestra, underwritten by Sharp and Dohme, with a capacity audience at the Academy of Music; a reception and dinner, tendered by the Governors of the College to new Associates and Direct Fellows, elected during the preceding year (not including those later elected at this Session); the Annual Convocation and President's Reception, with Dr. George W. Pickering, Professor of Medicine at the University of London, England, the chief speaker; the Annual Banquet of the College, with Mr. Ogden Nash, internationally known author and speaker, as the Speaker of the Day, and with the Temple University Concert Choir presenting a most excellent program. It was regretted that there was no available ballroom of adequate size to accommodate all the physicians who wished to attend the Banquet. Great credit goes to the Committee on Ladies' Entertainment, which presented a superior program for the more than 800 wives and daughters of the members. The program included tours, luncheons, a fashion show and other attractive features.

The Technical Exhibit occupied 136 booths, with 108 separate commercial firms exhibiting. It was particularly gratifying that the members and guest physicians showed a sustained interest in the Exhibit throughout the meeting, resulting in universal satisfaction of the exhibitors. Again, this may be attributed to the excellence of the Technical Exhibit, credit going not only to the exhibitors, but to the efforts of the College Committee on Exhibits. While the College does not have an official scientific exhibit, several scientific exhibits were put on by the Public Services and some societies, such as the Bureau of Medicine and Surgery of the Department of the Navy, the U. S. Public Health Service, the Armed Forces Institute of Pathology

(representing both the U. S. Air Force Medical Service and the U. S. Army Medical Service), the Amercon Cancer Society (Philadelphia Division), and the National Foundation for Infantile Paralysis.

The record shows that physicians were in attendance not only from the United States and Canada, but from Austria, Brazil, Cuba, Denmark, Egypt, England, Japan, Mexico, Paraguay, Philippine Islands, Venezuela and the Virgin Islands. Among distinguished foreign guests who participated in the Philadelphia program were the following: Sir Howard W. Florey, F.R.C.P., F.R.S., M.D., Ph.D., Professor of Pathology, Sir William Dunn School of Pathology, University of Oxford, who delivered the James D. Bruce Memorial Lecture on Preventive Medicine; George W. Pickering, M.A., M.B., F.R.C.P., M.D., Professor of Medicine, University of London, who delivered a scientific paper on the General Sessions program and also the Convocation Oration, "Disorders of Contemporary Society and Their Impact on Medicine"; Robert D. Lawrence, M.D., F.R.C.P., Physician-in-Charge of the Diabetic Department, King's College Hospital, London, who delivered the Lilly Lecture; and Dr. F. Avery Jones, F.R.C.P., Physician-in-Charge of the Gastro-enterological Unit, Central Middlesex Hospital, London, who presented a scientific paper on the General Session program.

At the Convocation an Honorary Fellowship of the College was conferred upon Dr. George W. Pickering, London, England; Masterships were conferred upon Dr. Paul D. White, Boston, Dr. David P. Barr, New York City, and Dr. William J. Kerr, formerly of San Francisco, Calif. Both Dr. Barr and Dr. Kerr are former Presidents of the College. Fellowships in course were conferred upon 255 physicians. The John Phillips Memorial Medal for 1955 was awarded to Dr. George W. Thorn, F.A.C.P., Boston, Mass.; the James D. Bruce Memorial Award was conferred on Sir Howard W. Florey, Oxford, England, and the Alfred Stengel Memorial Award went to Dr. Maurice C. Pincoffs, M.A.C.P., Baltimore, Md.

The names of new Associates and of new Fellows elected during the Philadelphia Session were printed in the June, 1955, issue of this journal. Dr. George F. Strong, Clinical Professor of Medicine at the University of British Columbia Faculty of Medicine and Senior Attending Physician and Director of the Heart Station, Vancouver General Hospital, Vancouver, B. C., was inducted as President for 1955-56; Dr. Walter L. Palmer, Chicago, Ill., was elected President-Elect, to assume the office of Presidency in 1956. Dr. Edward L. Bortz, Philadelphia, Pa., was elected First Vice President; Dr. Edward C. Reifstein, Sr., Syracuse, N. Y., was elected Second Vice President; Dr. Leland Hawkins, Los Angeles, Calif., was elected Third Vice President; Drs. William D. Stroud and Richard A. Kern, both of Philadelphia, were reelected as Treasurer and Secretary General, respectively. Among new members elected to the Board of Regents were Dr. Wann Langston, Oklahoma City, Okla., and Dr. Joseph D. McCarthy, Omaha, Nebr. Reelected to the Board of Regents for a term of three years were Drs. Herbert K. Detweiler, Toronto, Ont., Howard P. Lewis, Portland, Ore., Cyrus C. Sturgis, Ann Arbor, Mich., and Dwight L. Wilbur, San Francisco, Calif. New elections to the Board of Governors included Drs. Robert Friedenberg, Albuquerque, N. M.; George C. Griffith, Los Angeles, Southern California; Edmond M. Walsh, Omaha, Nebr.; John H. Talbott, Buffalo, Western New York; Bert F. Keltz, Oklahoma City, Okla.; Frank J. Gregg, Pittsburgh, Western Pennsylvania; Maj. Gen. Dan C. Ogle, U. S. Air Force; Maj. Gen. Silas B. Hays, U. S. Army; Rear Admiral Bartholomew W. Hogan, U. S. Navy; Dr. William S. Middleton, U. S. Veterans Administration. The names of the Officers, Regents and Governors for the year 1955-56 are published elsewhere in this issue. The personnel of Committees likewise is published in another section of this issue.

At the conclusion of the Annual Session in Philadelphia a representative group of members of the College and members of their families, numbering 115, participated in a Post-Convention Medical Cruise to Nassau and to Havana. A scientific pro-

gram was conducted aboard ship and at the University of Havana School of Medicine, the latter program being put on especially for the College group by members of the College in Cuba. The College Governor for Cuba, Dr. José J. Centurión, presided at the Havana meeting, and with the other Fellows of the College of Cuba, extended many courtesies to the group including a reception at the Havana-Biltmore Club.

The 1956 Annual Session will be held at Los Angeles, April 16-20, under the Presidency of Dr. George F. Strong, Vancouver, and the General Chairmanship of Dr. George C. Griffith, Los Angeles.

The 1957 Annual Session will be held at Boston, Mass., April 8-12, under the Presidency of Dr. Walter L. Palmer, Chicago, Ill., and the General Chairmanship of Dr. Richard P. Stetson, Boston, Mass.

#### AUDITOR'S REPORT, YEAR ENDING DECEMBER 31, 1954

February 21, 1955

To the Board of Regents  
American College of Physicians, Inc.  
4200 Pine Street  
Philadelphia 4, Pa.

Dear Sirs:

I have examined the accounts of the

#### AMERICAN COLLEGE OF PHYSICIANS, INC.

for the year ending December 31, 1954, and the accompanying statements, including the Balance Sheet at December 31, 1954, the analyses of the General Fund and the Endowment Fund and the Statement of Income Account for the calendar year 1954 are in accordance with the books of Account, and in my opinion present fairly the financial position at December 31, 1954 and the results of operations for the calendar year 1954, in conformity with generally accepted accounting principles applied on a basis consistent with that of preceding years, and subject to the following comments:

*Cash:* The cash was properly accounted for, was confirmed by direct correspondence with the following depositories, and the Petty Cash verified:

Girard Trust Corn Exchange Bank, Philadelphia .....	\$ 84,992.73
Provident Trust Company, Philadelphia .....	29,052.77
Royal Bank of Canada, Montreal .....	7,333.70
Petty Cash .....	250.00
	<u>\$121,629.20</u>

*Accounts Receivable:* The Accounts Receivable were examined and found to be less than one year old and appear to be collectible. The detailed accounts receivable were in agreement with the control account. No requests for confirmation of the accounts were mailed.

*Investments:* The securities were accounted for by direct correspondence and the income for the period under review was verified. The investment transactions are recorded properly in the general books of account and in the Investment Ledger, which is in agreement with the investment accounts of the General Ledger.

*General:* The changes in the amount of the ENDOWMENT FUND and the GENERAL FUND during the year 1954 are as follows:

## COLLEGE NEWS NOTES

	Balance Jan. 1, 1954	Balance Dec. 31, 1954	Increase
Endowment Fund .....	\$ 412,321.25	\$ 441,215.45	\$28,894.20
James D. Bruce Fund ....	10,000.00	10,000.00	
A. Blaine Brower Fund ..	20,000.00	20,000.00	
General Fund .....	660,149.32	722,917.99	62,768.67
Restricted Funds .....	1,426.72	1,581.72	155.00
	<u>\$1,103,897.29</u>	<u>\$1,195,715.16</u>	<u>\$91,817.87</u>

The Executive Secretary has analyzed the income of the ANNALS OF INTERNAL MEDICINE according to Volume, so that the income and expenses are stated according to the year of publication, with the exception of Volumes of prior years, which are closed out and not carried in an inventory account, with the sales properly credited to the General Fund according to the date of sale.

*General Comments:* The prepaid insurance at December 31, 1954 was not set up as a deferred expense; the other deferred and accrued items were verified; the charges to the Furniture and Equipment Accounts represent proper additions to the account, and the allowances for depreciation appear to be adequate. A depreciation reserve account has been set up for the Headquarters Building in accordance with the action of the Board of Regents at the meeting of December 12, 1937, which provided that depreciation on the Building should be taken into account at the rate of \$1,000.00 per year and increased in 1949 to \$2,000.00. The footings and extensions of the inventory were verified.

All ascertainable liabilities have been included in the Balance Sheet.

All recorded receipts from dues, initiation fees, exhibits, advertising, sales of publications, etc., were properly deposited in banks and all disbursements, as indicated on the vouchers, cancelled checks and bank statements were properly recorded in the books of account.

Respectfully submitted,

(Signed) DAVID ROBINOVITZ, Auditor

AMERICAN COLLEGE OF PHYSICIANS, INC.  
Balance Sheet, December 31, 1954

COLLEGE NEWS NOTES

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GENERAL FUND

Assets

Current:

Cash in Banks and on Hand .....	\$ 86,646.12
Accounts Receivable .....	16,213.56
American Air Lines .....	423.00
Inventory of Keys, Pledges and Frames .....	1,649.17
Accrued Income on Endowment Fund Investments .....	2,560.96
Accrued Income on General Fund Investments .....	1,556.55
Investments at Book Value .....	601,359.49
Insurance Deposit .....	555.00

Total Current Assets .....

\$710,965.85

Deferred:

Expenses, 36th Annual Session .....	\$ 5,066.12
1955 Directory .....	255.75
Advertising, Volume 42 .....	7.84

Fixed:

College Headquarters:	
Real Estate .....	\$112,882.32
Less Depreciation .....	24,000.00
Furniture and Equipment, at cost .....	25,449.17
Less Depreciation .....	10,759.92
Investment, Real Estate, 404-12 S. 42nd Street .....	9,647.72

\$829,514.85

Assets

Current:

Cash .....	\$ 34,983.08
Investments at Book Value .....	439,796.22
Accrued Income on Investments .....	2,560.96

\$477,340.26

Liabilities

Accounts Payable .....	\$ 73.21
Miscellaneous .....	219.08
Taxes Payable .....	3.48

Deferred Income:

Advance Subscriptions, ANNALS OF INTERNAL MEDICINE, Volume 42 to 48 .....	79,528.23
1955 Exhibits, paid in advance .....	8,377.43

Restricted Funds:

Income on James D. Bruce Fund Investments .....	523.12
Income on A. Blaine Brower Fund Investments .....	1,058.60
Elizabeth Archbold Bowes Traveling Scholarships .....	400.00
Charles F. Martin Fund .....	2,500.00
Mead Johnson Postgraduate Scholarships .....	3,000.00
Portrait-Photo Fund .....	677.59
Alabama Regional Meeting .....	70.83
Southeastern Regional Meeting .....	165.29
1954-55 Reserve Fellowship Fund .....	10,000.00

Total Current Liabilities and Funds .....

\$106,596.86

General Fund, as annexed .....

722,917.99

\$829,514.85

Liabilities

Current:

Endowment Fund, Principal .....	\$441,215.45
Accrued Income, Due to General Fund .....	2,560.96
James D. Bruce Fund .....	10,000.00
A. Blaine Brower Fund .....	20,000.00
Willard O. Thompson Traveling Scholarship Fund ..	3,563.85

\$477,340.26

*Summary of Operations for the Calendar Year 1954**Income:*

Annual Dues .....	\$ 57,368.22	
Initiation Fees .....	15,220.00	
Subscriptions, ANNALS OF INTERNAL MEDICINE .....	143,723.04	
Advertising, ANNALS OF INTERNAL MEDICINE .....	99,318.96	
Income from Investments, General Fund (including Accrued) ....	28,318.66	
Income from Investments, Endowment Fund (including Accrued) ..	18,856.89	
Dividend on Perpetual Insurance Deposit .....	60.00	
Income, Sale of "Annals" Volume Files .....	369.33	
Postgraduate Courses (Balance) .....	5,973.15	
Profit on Sale or Maturity of Securities, General Fund .....	508.60	
Profit on Equipment Traded In .....	30.00	
Thirty-fifth Annual Session:		
Exhibits .....	\$ 33,125.01	
Guest Fees .....	7,462.50	40,587.51
TOTAL INCOME .....		\$410,334.36

*Expenses:*

Salaries .....	\$ 85,523.41	
Communications .....	14,684.29	
Office Supplies and Stationery .....	2,916.97	
Printing .....	119,084.73	
Maintenance .....	261.03	
Traveling Expenses .....	15,968.02	
Editorial Assistance .....	1,065.00	
Cumulative Index .....	710.00	
Miscellaneous .....	1,853.52	
College Headquarters, Maintenance, Taxes, Insurance, etc. ....	5,753.06	
Depreciation on College Headquarters Building .....	2,000.00	
Depreciation on Furniture and Equipment .....	2,666.69	
Keys, Pledges and Frames .....	78.53	
Regional Meetings .....	4,766.29	
John Phillips Memorial Award .....	486.01	
Investment Counsel Service and Security Custodian's Fee .....	1,235.00	
Employees' Pension Fund .....	8,491.16	
Advertising Discount .....	2,172.41	
Loss on Sale or Maturity of Securities, General Fund .....	87.50	
Joint Commission on Accreditation of Hospitals .....	30,750.00	
Collection and Exchange .....	36.22	
1953 Directory Expenses .....	3,271.66	
1954 Supplement .....	1,979.36	
Service Certificates, Past Officers, Regents and Governors .....	444.00	
Thirty-fifth Annual Session—Special Expenses:		
Committee on Panels .....	\$ 240.89	
Committee on Publicity .....	939.95	
Committee on Ladies' Entertainment .....	750.44	
Convocation .....	1,997.72	
Regents-Governors Dinner .....	1,956.50	
Regents-Governors Luncheons .....	382.96	
Registration .....	248.60	
Rent .....	664.87	
Televised Clinics .....	637.40	
Other Miscellaneous .....	\$ 1,927.30	
Chicago Symphony Orchestra .....	155.83	
Banquet Deficit .....	122.77	
College Booth Expenses .....	44.12	
Public Address System .....	1,180.00	
Clinical Pathological Conferences .....	13.77	
Reception and Dinner for New Members .....	2,283.02	
Pre-convocation Dinner .....	320.90	6,047.71
		13,867.04



## COLLEGE NEWS NOTES

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404-12 S. 42nd Street:

Maintenance .....	\$ 315.41
Heat, Light, Gas and Water .....	65.60
Insurance .....	37.68
Taxes .....	515.10

933.79

Income, Brought Forward .....	\$410,334.36
TOTAL EXPENSES .....	\$321,085.69

Net Income for 1954 Credited to General Fund .....	\$ 89,248.67
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## INVESTMENTS

## BONDS

At December 31, 1954

Par Value	Bonds	Funds	
		Endowment	General
\$15,000	Allied Chemical & Dye Corp., Deb. 3½'s, 1978 .....	\$ 14,850.00	
10,000	Allied Chemical & Dye Corp., Deb. 3½'s, 1978 .....		\$ 9,962.50
15,000	Aluminum Co. of Canada, 3½'s, 1970 .....		15,318.75
12,000	American Gas & Elec. Co., Deb. 3½'s, 1977 .....	12,270.00	
9,000	American Tobacco Co., 3's, 1969 .....	9,415.24	
15,000	American Tobacco Co., 3½'s, 1977 .....	15,093.75	
10,000	Arkansas Power & Light Co., 1st, 3½'s, 1982 .....		10,367.00
15,000	Baltimore & Ohio Equip. Trusts, 3½'s, 1962 .....		14,999.85
9,000	Carolina Clinchfield & Ohio Rwy. Co., 1st Mort., 4's, "A", 1965 .....	9,465.70	
10,000	Chesapeake & Ohio Rwy. Equip. Trust Certs., 2½'s, 1965 .....		9,854.18
12,500	Columbus Gas System, Deb. 3½'s, "C", 1977 .....		12,500.00
2,500	Columbus Gas System, Deb. 3½'s, "C", 1977 .....	2,500.00	
10,000	Connecting Rwy. Co., 1st, 3½'s, "A", 1976 .....	9,600.00	
10,000	Connecting Rwy. Co., 1st, 3½'s, "A", 1976 .....		8,925.00
6,000	Consolidated Edison Co. of New York, 3's, 1981 .....	5,970.00	
25,000	General Motors Acceptance Corp., Deb. 3½'s, 1961 .....	25,593.75	
10,000	General Motors Corp., Deb. 3½'s, 25 yr., 1979 .....	10,162.50	
15,000	New York Central Railroad Second Equip. Trust Certs., 3½'s, 1965 .....		14,794.13
5,000	Oregon-Washington RR & Nav. Co., Ref. 3's, "A", 1960 .....	5,300.00	
5,000	Oregon-Washington RR & Nav. Co., Ref. 3's, "A", 1960 .....		5,300.00
20,000	Pennsylvania RR Equip. Trust Cert., 2½'s, 1961 ..		19,700.00
15,000	Pittsburgh & Lake Erie RR, Equip. Trust Certs., 3's, 1964 .....		14,723.04
10,000	Reading Co., Equip. Trust Certs., "U", 3½'s, 1963 ..		9,999.90
10,000	Service Pipe Line Co., Deb. 3.20's, 1982 .....	10,025.00	
10,000	Seaboard Airline Equip. Trusts, 2½'s, "L", 1966 ..		9,746.80
15,000	St. Louis, San Francisco RR Co., Equip. Trusts, 2½'s, 1962 .....		14,935.53
10,000	Texas and New Orleans RR Co., 1st & Ref., 3½'s "B", 1970 .....	10,458.60	
14,000	U. S. Treasury Bonds, Series "K", Sept. 1, 1966 ..	14,000.00	
10,400	U. S. Treasury Bonds, 2½'s, "G", Jan. 1, 1955 ..	10,400.00	
12,000	U. S. Treasury Bonds, 2½'s, "G", March 1, 1957 ..		12,000.00
10,000	U. S. Treasury Bonds, 2½'s, "G", March 1, 1957 ..	10,000.00	
16,000	U. S. Treasury Bonds, 2½'s, "G", July 1, 1957 ..	16,000.00	
7,000	U. S. Treasury Bonds, 2½'s, "G", February, 1958 ..	7,000.00	
10,000	U. S. Treasury Bonds, 2½'s, "G", March 1, 1959 ..	10,000.00	
6,000	U. S. Treasury Bonds, 2½'s, "G", July 1, 1959 ..	6,000.00	
5,000	U. S. Treasury Bonds, 2½'s, "G", July 1, 1957 ..		5,000.00
2,500	U. S. Treasury Bonds, 2½'s, "G", March 1, 1960 ..	2,500.00	

2,500	U. S. Treasury Bonds, 2½'s, "G", January 1, 1961 ..	2,500.00	
2,500	U. S. Treasury Bonds, 2½'s, "G", January 1, 1962 ..	2,500.00	
2,500	U. S. Treasury Bonds, 2½'s, "G", June 1, 1962 ....	2,500.00	
20,000	U. S. Treasury Bonds, Series K, December 1, 1966 ..		20,000.00
9,000	West Penn Electric Co., S.F., Coll. Tr., 3½'s, 1974 .....	9,541.37	
		<hr/>	<hr/>
		\$233,645.91	\$208,126.68

## INVESTMENTS

## STOCKS

At December 31, 1954

Shares		Endowment	Funds	
			General	
	<i>Stocks</i>			
150	Allied Chemical & Dye Corp., Common .....		\$ 10,648.77	
215	American Gas & Electric Co., Common .....	\$ 4,035.03		
344	American Gas & Electric Co., Common .....		6,403.09	
100	American Smelting & Refining Co., 7%, Pfd. ....	18,867.80		
50	American Viscose Corp., 5%, Cum. Pfd. ....		5,958.75	
100	Armstrong Cork Co. ....		8,868.93	
160	Atchison, Topeka & Santa Fe RR .....	9,770.74		
40	Atchison, Topeka & Santa Fe RR .....		2,442.69	
346	Atlantic City Electric Company, Common .....		6,488.66	
116	Atlantic City Electric Company, Common .....	1,655.75		
20	Burlington Mills, 4%, Pfd. ....	1,840.65		
80	Burlington Mills, 4%, Pfd. ....		7,533.75	
100	Chase National Bank of New York, Common .....		4,550.00	
142	Chase National Bank of New York, Common .....	5,013.41		
200	Commonwealth Edison Corp., Common .....	5,221.38		
200	Commonwealth Edison Corp., Common .....		7,218.24	
300	Consolidated Edison Co., of New York .....		9,979.85	
100	Consumers Power Co., 4½'s, Cum. Pfd. ....		11,287.50	
200	Continental Illinois Bank & Trust Co. ....		17,920.06	
75	Continental Insurance Co. of New York, Common ....		3,445.00	
50	Continental Insurance Co. of New York, Common ....	2,375.09		
200	E. I. du Pont de Nemours, Common .....		8,714.85	
134	Fidelity-Phoenix Fire Insurance Co., Common .....	6,124.94		
300	General Electric Co., Common .....		3,571.78	
300	General Electric Co., Common .....	3,780.96		
150	General Motors Corp., Common .....		3,594.53	
50	General Motors Corp., Common .....	1,522.73		
200	B. F. Goodrich Tire Co., Common .....		7,830.39	
338	Gulf Oil Corp., Common .....		11,846.67	
300	Guranty Trust Co. of New York, Common .....		19,890.20	
288	Insurance Company of North America, Common .....	10,335.25		
50	International Harvester Co., 7%, Pfd. ....	8,169.00		
200	International Nickel Co. of Canada, Ltd., Common ....		6,605.79	
231	International Paper Co., Common .....		9,261.50	
200	Kennecott Copper Corp., Common .....		10,918.21	
100	Mead Corp., 4½'s, Cum. Pfd. ....	9,796.05		
100	Mead Corp., 4½'s, Cum. Pfd. ....		9,308.25	
200	Mellon National Bank & Trust Co. ....		17,075.00	
425	Middle South Utilities, Inc., Common .....	8,209.41		
375	Middle South Utilities, Inc., Common .....		8,192.35	
100	Monsanto Chemical Co. ....		8,556.66	
208	National City Bank of New York .....	7,989.85		
193	National City Bank of New York .....		8,844.29	
400	New York State Electric & Gas Co. ....		9,816.02	
50	Niagara Mohawk Power Corp., 3.90%, Pfd. ....		5,067.50	
200	Niagara Mohawk Power Corp., Common .....		4,969.92	
300	Niagara Mohawk Power Corp., Common .....	6,625.67		
100	Niagara Mohawk Power Corp., 3.60% Pfd. ....	10,185.00		

Shares	Stocks	Funds	
		Endowment	General
300	Ohio Edison Co., Common .....		13,010.25
100	Owens-Illinois Glass Co., Common .....		9,845.45
400	Pacific Gas & Electric Co., 6%, Pfd. ....		13,557.14
130	Pacific Gas & Electric Co., 6%, Pfd. ....	4,907.09	
200	Panhandle Eastern Pipe Line Co., 4%, Cum. Pfd. ....	20,271.43	
261	Pennsylvania Co., for Banking & Trusts .....		9,066.56
70	Pennsylvania Co., for Banking & Trusts .....	2,883.27	
110	Pennsylvania Power & Light Co., Common .....	3,874.75	
340	Pennsylvania Power & Light Co., Common .....		11,456.43
136	Philadelphia Electric Co., Common .....		4,046.50
20	Philadelphia Electric Co., Common .....	400.00	
300	Philadelphia Electric Co., 1.00 Div., Pref. Com. ....	7,391.13	
200	Phillips Petroleum Corp., Common .....		5,286.27
200	Pittsburgh Plate Glass Co., Common .....		10,805.93
300	Scott Paper Co., Common .....		10,547.48
100	Sherwin Williams Co., Common .....		9,288.28
200	Southern California Edison Co., 4.32%, Cum. Pfd. ....		5,180.62
400	Standard Oil Co. of New Jersey, Common .....		10,964.16
100	Tennessee Gas Transmission Co., 4.60%, Cum. Pfd. ....	10,924.64	
100	Tennessee Gas Transmission Co., 4.60%, Cum. Pfd. ..		9,235.30
400	Texas Company, Common .....	12,382.11	
225	Union Carbide & Carbon Co. ....	6,146.98	
75	Union Carbide & Carbon Co. ....		3,019.88
242	U. S. Fidelity & Guaranty Co. ....		11,113.36
100	U. S. Steel Corp., 7%, Cum. Pfd. ....	15,450.20	
Total Stocks .....		<u>\$206,150.31</u>	<u>\$393,232.81</u>

## Total Investments:

	Endowment Fund	General Fund	Total
Bonds .....	\$233,645.91	\$208,126.68	\$ 441,772.59
Stocks .....	206,150.31	393,232.81	599,383.12
	<u>\$439,796.22</u>	<u>\$601,359.49</u>	<u>\$1,041,155.71*</u>

\* Book (Cost) Value.

## GIFTS TO COLLEGE LIBRARY OF PUBLICATIONS BY MEMBERS

The College is indeed grateful to the following Fellows who have recently presented autographed copies of their works to the College Library of Publications by Members:

Edward C. Reifenshtein, Jr., M.D., F.A.C.P., New York City, Editor—*Metabolic Interrelations, Transactions of the First Conference, February 7-8, 1949; Metabolic Interrelations, Transactions of the Second Conference, New York, N. Y., January 9-10, 1950; Metabolic Interrelations, Transactions of the Third Conference, January 8-9, 1951; Metabolic Interrelations with Special Reference to Calcium, Transactions of the Fourth Conference, January 7-8, 1952; Metabolic Interrelations with Special Reference to Calcium, Transactions of the Fifth Conference, January 5-6, 1953.*

Wallace M. Yater, M.D., F.A.C.P., Washington, D. C.—*Fundamentals of Internal Medicine* (4th edition).

Marion B. Sulzberger, M.D., F.A.C.P., New York City—*The Clinical Significance of Disturbances in the Delivery of Sweat*, with Franz Herrmann, M.D.

THE FELLOWSHIP AND SCHOLARSHIP PROGRAM OF THE AMERICAN  
COLLEGE OF PHYSICIANS

Research Fellowships

Six Research Fellowships in Medicine will be available from July 1, 1956, to June 30, 1957. These Fellowships are designed to provide an opportunity for research training either in the basic medical sciences or in the application of these sciences to clinical investigation. They are for the benefit of physicians who are in the early stages of their preparation for a teaching and investigative career in internal medicine or pediatrics. Assurance must be provided that the applicant will be acceptable in the laboratory or clinic of his choice, and that he will be provided with the facilities necessary for the proper pursuit of his work. Stipends vary from \$3,300.00 to \$5,000.00 per annum, depending on number of dependents.

The A. Blaine Brower Traveling Scholarships

and

The Elizabeth Archbold Bowes Traveling Scholarship

The aim of these Scholarships is to provide an opportunity for worthy, young physicians, preferably Associates of the College, to spend a month, more or less, as visiting fellows at some institution, or institutions, for observation and postgraduate study. The Committee on Fellowships and Scholarships of the College facilitates opportunities for these Scholarships at outstanding institutions where a month's observation, contact and study will be an exceptional inspiration and a practical source of training. The Brower Traveling Scholarships (two) are available throughout the United States and Canada. The Bowes Traveling Scholarship is restricted to candidates from Canada. Recipients are chosen and institutions designated by the Committee on Fellowships and Scholarships, approved by the Board of Regents of the College. Applications shall be filed before October 15, each year; recipients will be selected by the Committee at its mid-November meeting. Scholarships will be arranged to start after the following January 1, at the convenience of the recipient and the preceptor or institution. The first awards available to start January 1, 1956.

Mead Johnson Postgraduate Scholarships

Through a grant from Mead Johnson and Company, the College has available three awards of \$1,000.00 each annually. Recipients shall be individuals who intend to practice internal medicine, who appear to possess the attributes for success in that specialty and who need funds to help them obtain their goal of adequate education in internal medicine. Awards are open to internes or residents, with some preference to residents. The awards are administered by the Committee on Fellowships and Scholarships of the College. Each Governor of the College (there is a Governor for each State or Province) shall have the privilege to submit one nomination from his state, province or territory, to be accompanied by a letter of justification and important details. Unless otherwise specified, nominations shall be made to the Executive Office of the College by October 1, each year; selections will be made at the mid-November meeting of the Board of Regents, the Scholarships to begin the following July 1.

Communications should be addressed to: Mr. E. R. Loveland, Executive Secretary, American College of Physicians, 4200 Pine St., Philadelphia 4, Pa.

## AUTUMN, 1955, POSTGRADUATE COURSES BY THE AMERICAN COLLEGE OF PHYSICIANS

The Committee on Postgraduate Courses and the Board of Regents of the College have adopted the following schedule of courses for the Autumn of 1955. These courses are organized primarily for members of the College who pay a matriculation fee of \$30.00. Where facilities become available, non-members with adequate preliminary training may be admitted at a fee of \$60.00. The College retains one-sixth of the fees collected to cover its overhead. Balance of the fees are turned over to the directors and institutions to cover local costs, travel expenses of guest speakers, etc. All registrations must be filed with the Executive Secretary, American College of Physicians, 4200 Pine Street, Philadelphia 4, Pa.

1. **NEUROLOGICAL ASPECTS OF INTERNAL MEDICINE:** University of Wisconsin Medical School, Madison, Wis.; Hans H. Reese, M.D., F.A.C.P., Director. October 10-14, 1955.

Several years ago Dr. Reese gave for the College a very successful course on the subject of Psychiatry for the Internist. Dr. Bernard Alpers, of Jefferson Medical College of Philadelphia, has given two or more courses in Neurology for the Internist for the College, with outstanding success. The Committee feels it particularly appropriate to schedule this new course under Dr. Reese at the University of Wisconsin.

2. **PHYSIOLOGICAL BASIS OF INTERNAL MEDICINE:** Duke University School of Medicine, Durham, N. C.; Eugene A. Stead, Jr., M.D., F.A.C.P., Director. October 10-14, 1955.

This course was first given by Dr. Stead during the Autumn of 1953. It was an outstanding course on the College program and had a large and representative registration.

3. **RECENT ADVANCES IN INTERNAL MEDICINE:** University of Michigan Medical School, Ann Arbor, Mich.; Cyrus C. Sturgis, M.D., F.A.C.P., Director. October 17-22, 1955.

Dr. Sturgis, immediate Past President of the College, has very successfully given courses in Internal Medicine for the College in the past. On this occasion his faculty will particularly emphasize "Recent Advances."

4. **RECENT DEVELOPMENTS IN PSYCHIATRY FOR THE INTERNIST:** The Menninger School of Psychiatry, Topeka, Kan.; Karl A. Menninger, M.D., F.A.C.P., Director; William Rottersman, M.D. (Associate), and Fred E. Feldman, M.D., Associate Directors. October 24-28, 1955.

This is an entirely new course on the College program at a new institution and by a new director. The University of Kansas School of Medicine will cooperate and actively participate in the teaching, as will also the Menninger Foundation, the Winter Veterans Administration Hospital and the Topeka State Hospital. Minimal enrollment, 50; maximal, 100.

5. **CURRENT CONCEPTS OF RHEUMATIC DISEASES AND THEIR MANAGEMENT:** Cornell University Medical College and The Hospital for Special Surgery, New York, N. Y.; Richard H. Freyberg, M.D., F.A.C.P., Director. October 31-November 4, 1955.

For several years the Committee has desired to present a course in Rheumatic Diseases and is gratified to consummate their plans in the above course.

6. CONGENITAL HEART DISEASE: Johns Hopkins Hospital, Baltimore, Md.; Helen B. Taussig, M.D., Director. November 14-18, 1955.

This is the first time that a course under this title has been given for the College. The Committee is gratified to have as the Director, Dr. Helen B. Taussig, a nationally known authority in this field. The course must be limited within a minimal of 25 registrants and a maximal of 40 registrants.

7. THE HEART AND GREAT VESSELS IN 1955: Massachusetts General Hospital, Boston, Mass.; Paul D. White, M.D., M.A.C.P., Director. December 5-10, 1955.

For many years Dr. White, a master teacher and authority in Cardiovascular Diseases, organized and directed courses for the College. They were always outstanding, the registration being limited to 100. The chain of these courses under Dr. White was broken due to his extended duties as Executive Director of the National Advisory Heart Council and as Consultant to the National Heart Institute. The Committee feels it especially fitting to make this course again available to the College members.

8. RECENT ADVANCES IN CARDIOVASCULAR DISEASE: Southwestern Medical School of the University of Texas, Dallas, Tex.; Carleton B. Chapman, M.D., F.A.C.P., and Maurice M. Scurry, M.D., F.A.C.P., Co-directors. January 16-20, 1956.

This is an entirely new course at a new institution and under new directors. The course will be given during January of 1956, but is listed in the Autumn, 1955, Postgraduate Bulletin in order that suitable and necessary publicity may be given in advance.

The Postgraduate Bulletin is now at press and will be distributed to all members of the College and to all non-members on the College mailing list in the immediate future.

Approximately 1,600 physicians registered for A.C.P. courses during the period of July 1, 1954, and June 17, 1955, excelling by far the registration in any previous year since the Postgraduate Course Program was originated in 1937.

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#### EXAMINATIONS BY CERTIFYING BOARDS

The American Board of Internal Medicine, William A. Werrell, M.D., Executive Secretary-Treasurer, 1 W. Main St., Madison 3, Wis.

Written examinations will be held Oct. 17, 1955, at selected centers. The closing date for the filing of applications was May 1.

The following oral examinations have been scheduled:

Portland, Ore.—Sept. 14-16

Chicago, Ill.—Nov. 30-Dec. 2

An oral examination in the sub-specialty of Cardiovascular Disease will be held in Chicago, Nov. 30-Dec. 1. The closing date for applications was June 1.

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#### NEXT A.C.P. COMMITTEE ON CREDENTIALS MEETING

The Committee on Credentials of The American College of Physicians will hold its next regular meeting on Nov. 11-12, 1955. Proposal forms to be acted on at that time must be on file at the College Headquarters 60 days in advance of the meeting.



## COMING EVENTS

There will be held, under the direction of the Communicable Disease Center Laboratory Training Services, a number of laboratory refresher training courses during the period July, 1955, to June, 1956. Information and application forms may be obtained from Laboratory Training Services, Communicable Disease Center, U. S. Public Health Service, P.O. Box 185, Chamblee, Ga.

An intensive short course on the laboratory diagnosis and pathology of parasitic infections will be presented at the Louisiana State University School of Medicine in New Orleans, Aug. 15-27, 1955. Persons interested in attending this course may write to: Dr. Clyde Swartzwelder, Department of Microbiology, Louisiana State University School of Medicine, 1542 Tulane Ave., New Orleans 12, La.

A course in Electrocardiographic Interpretation for graduate physicians will be given at the Michael Reese Hospital in Chicago by Louis N. Katz, M.D., F.A.C.P., Director of the Cardiovascular Department, Medical Research Institute, and associates. The class will meet daily from 9:00 a.m. to 5:00 p.m., Aug. 22 through Sept. 3. Further information and a copy of the lecture schedule may be obtained upon application to Mrs. Ana Rose, Administrative Secretary, Cardiovascular Department, Medical Research Institute, Michael Reese Hospital, Chicago 16, Ill.

The Seventh Postgraduate Assembly in Endocrinology and Metabolism, sponsored jointly by The Endocrine Society and the Indiana University School of Medicine, will be held Sept. 26-Oct. 1 in Indianapolis.

Out-of-state members of the faculty will include Drs. Frank L. Engel (Associate), Durham, N. C.; Roberto F. Escamilla, F.A.C.P., San Francisco; William H. Perloff (Associate), Philadelphia; Rulon W. Rawson, F.A.C.P., New York City; Edward C. Reifenstein, Jr., F.A.C.P., New York City; Edward H. Rynearson, F.A.C.P., Rochester, Minn.; and Henry H. Turner, F.A.C.P., Oklahoma City. Members of the faculty of Indiana University School of Medicine who will also participate will include Drs. Glenn W. Irwin, Jr. (Associate), Franklin B. Peck, F.A.C.P., Charles E. Test, F.A.C.P., and Don E. Wood, F.A.C.P. Dr. Escamilla is Chairman of the Committee on Postgraduate Education of The Endocrine Society and Dr. Wood is Chairman of the Committee on Local Arrangements. The fee for the course is \$100.00; further details may be obtained from John J. Mahoney, Ph.D., Assistant Dean, Indiana University School of Medicine, 1040 W. Michigan St., Indianapolis 7, Ind.

The American Academy of Pediatrics will hold its 24th annual meeting Oct. 1-6, 1955, at the Palmer House, Chicago.

The annual meeting of the American Academy for Cerebral Palsy will be held Oct. 10-12, 1955, in Memphis, Tenn.

On Nov. 1, 2 and 3, 1955, a 3-day International Symposium on "Enzymes: Units of Biological Structure and Function," sponsored by the Henry Ford Hospital and The Edsel B. Ford Institute for Medical Research, will be held in the auditorium of Henry Ford Hospital, Detroit, Mich.

Interrelationships between enzymology and other fields, notably genetics, physiology, biochemistry and pharmacology, will constitute the general theme of the symposium. The specific topics for the six sessions will be: "Origin of Enzymes," "Status of the Gene-Enzyme Relationship," "Enzymes and Cell Structure," "Enzymatic Basis of Some Physiological Functions," "Cellular Energy Sources," and "Regulation of Enzyme Activity." More than thirty internationally known scientists have accepted invitations to participate.

Interested persons may secure a copy of the Preliminary Announcement by writing to Dr. Clarence E. Rupe, Henry Ford Hospital, Detroit 2, Mich.

The 83rd Annual Meeting of the American Public Health Association and 40 related organizations will be held Nov. 14-18, 1955, in the Municipal Auditorium, Kansas City, Mo. It is expected that more than 5,000 public health workers from all parts of the free world will be in attendance.

The Duke University School of Medicine is sponsoring a Postgraduate Medical Cruise to the Caribbean for 12 days beginning Nov. 23, 1955. Wilburt Cornell Davison, M.D., F.A.C.P., Professor of Pediatrics and Dean of the School of Medicine; J. Lamar Callaway, M.D., F.A.C.P., Professor of Dermatology and Syphilology; and William McNeal Nicholson, M.D., F.A.C.P., Professor of Medicine and Director of Postgraduate Education will be on the faculty.

Of interest to members are the following foreign meetings:

- July 18-23—London—12th Congress of the International Association of Psychotechnology. C. B. Frisby, National Institute of Industrial Psychology, 14, Wellbeck St., London, W. 1.
- July—Dublin—Irish Medical Association. The Irish Medical Association, 10 Fitzwilliam Place, Dublin, Ireland. (The exact date has not been given.)
- Aug. 20-27—Sydney—Australasian Medical Congress (British Medical Association). Federal Council of the British Medical Association in Australia, 135 Macquarie St., Sydney, N.S.W.
- Sept. 2-4—Evian, France—4th International Medical Congress. Dr. P. Lascourenan, Etablissement Thermal, Evian.
- Sept. 10-11—Mattsee/Salzburg, Austria—International Congress on Social Medicine. President, Prof. Dr. Hans Finsterer, Wien, 1, Bosendorferstrabe 9, Austria.
- Sept. 12-17—London—2nd International Congress of Neuropathology. Dr. W. H. McMenemy, Maida Vale Hospital, London, W. 9.
- Sept. 13-17—London—4th Symposium Neuroradiologicum. Dr. R. D. Hoare, National Hospital, Queen Square, London, W.C. 1.
- Sept. 20-26—Vienna, Austria—9th General Assembly of the World Medical Association. Secretary General, Dr. Louis H. Bauer, F.A.C.P., 345 E. 46th St., New York 17, N. Y.
- Oct. 17-22—Pretoria—40th South African Medical Congress. Dr. D. A. Fowler, Room 28, Administrative Building, General Hospital, Pretoria.
- Nov. 6-12—Rio de Janeiro—2nd International Congress of Allergology. Dr. Roberto J. Taves, Avenue Rio Branco 277, Rio de Janeiro.
- Nov. 5-12—Rosario, Argentina—The International General Medical Congress. Eduardo Morgens, Cas. Correo 4043, Buenos Aires, Argentina.

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On May 9, 1955, the University of Chicago presented its annual Howard Taylor Ricketts Award to Dr. Ernest W. Goodpasture of Vanderbilt University. The Award was in recognition of his outstanding contributions to the field of virus and rickettsial diseases. He spoke to the students and faculty on "Host Cell Responses to Viral Mutants as Exemplified by Fowl Pox."

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The American Rheumatism Association held its Annual Meeting at the Hotel Dennis, Atlantic City, N. J., June 3-4, 1955. Dr. Clarence B. Whims, F.A.C.P., Atlantic City, was the Chairman of the Committee on Arrangements and Dr. William D. Robinson, F.A.C.P., Ann Arbor, was Chairman of the Program Committee. The

Officers were: Dr. Edward W. Boland, F.A.C.P., Los Angeles, President; Dr. Charles L. Short, F.A.C.P., Boston, 1st Vice President and President-Elect; Dr. William H. Kammerer, F.A.C.P., New York City, Secretary and Treasurer. A large number of Fellows of the American College of Physicians were speakers on the program. The program was largely restricted to formal papers and panel discussions.

Major General Dan C. Ogle, F.A.C.P., Surgeon General of the Air Force, announced that the Air Force doctors and dentists will soon be wearing their new insignia which will enable them to be identified more readily. The insignia is a small silver badge with a caduceus entwined on a staff and mounted in its center. The dental badge is identical to the one to be worn by physicians except that a "D" is superimposed on the caduceus. The badge will be worn above the left breast pocket.

Many Fellows of the College took part in the Scientific Session at the University of Havana Faculty of Medicine during the Post-Convention Cruise. Among those in the group were: Manuel J. Viamonte, M.D., J. J. Centurión, M.D., Fernando Milanes, M.D., Teodosio Valledor, M.D., Alfredo Antonetti, M.D., Guillermo Garcia, M.D., Felix Hurtado, M.D., Carlos F. Cardenas, M.D., Horacio Abascal, M.D., Octavio Montoro, M.D., Angel Vieta, M.D., and José Bisbe, M.D.

Dr. Ralph Jones, Jr. (Associate), heretofore Associate Professor of Medicine at the University of Pennsylvania School of Medicine, has accepted appointment as Professor of Medicine and Head of the Department of Medicine at the University of Miami School of Medicine as of July 1, 1955. His office will be at the Jackson Memorial Hospital, Miami, Fla.

Dr. Hugh J. Morgan, M.A.C.P., Nashville, Tenn., has been appointed to the Advisory Committee of the Foreign Operations Administration Project being undertaken by the American College of Surgeons at the request of the Government. Dr. Morgan presently is on a sabbatical year from Vanderbilt University School of Medicine.

Dr. Alexander B. Leeds, M.D., F.A.C.P., of the Albuquerque Medical Center, Albuquerque, N.M., will attain the age of 80 years on Nov. 4, 1955. On April 4, 1955, he celebrated 53 years in the practice of medicine. He is a Life Fellow of the American College of Physicians. In March, 1955, there appeared an article in the *Arizona Dental Journal* by him entitled, "Arthritic Symptoms Relating to Position and Function of Mandible," an evidence that one is never too old to keep on growing and to make contributions.

The Rocky Mountain Medical Conference recently held its sixth biennial meeting at the Hilton Hotel in Albuquerque, N. M. Among the Fellows of the College taking part in the meeting were: William T. Foley, M.D., New York; Frank B. Queen, M.D., Portland, Ore., Benjamin B. Wells, M.D., Omaha, Nebr., and Lester R. Dragstedt, M.D., Chicago.

Dr. John R. Paul, F.A.C.P., New Haven, Conn., was one of a group of outstanding experts on poliomyelitis virology and epidemiology called to Washington to advise the United States Public Health Service on the interpretation of all data on every case of paralytic polio among those children both vaccinated and unvaccinated who had contracted polio.

Dr. James A. Halsted, F.A.C.P., has been appointed Chief of Professional Services at the Veterans Administration Hospital, Syracuse, N. Y., and Associate Professor of Medicine at the State University of New York College of Medicine at Syracuse. He was formerly a member of the staff of the Veterans Administration Hospital in Los Angeles and the faculty of the U.C.L.A. Medical Center.

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William S. Middleton, M.D., M.A.C.P., Chief Medical Director of the Veterans Administration, has recently announced the appointment of Jesse F. Casey, M.D. (Associate), as head of the Psychiatry and Neurology Service of the Veterans Administration's Department of Medicine and Surgery.

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Rear Admiral Bartholomew W. Hogan, F.A.C.P., (MC), USN, attended a meeting of the Surgeons General of the NATO countries in Paris, France, May 4-7, 1955. Following this meeting, Admiral Hogan visited Naval medical installations in Italy, Greece, Turkey, Germany and England.

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It is interesting to note that the College will be represented by six Fellows and three Associates on the staff of the new Medical Science Building of New York University-Bellevue Medical Center.

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Dr. Jack D. Myers, F.A.C.P., Associate Professor of Medicine, Duke University School of Medicine, Durham, N. C., on July 1, 1955, accepted an appointment as Professor and Chairman of the Department of Medicine, University of Pittsburgh School of Medicine.

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Dr. Harold Stevens, F.A.C.P., Washington, D. C., has been appointed to the position of Professor of Neurology at the George Washington University School of Medicine. He replaced Dr. Walter Freeman, F.A.C.P., who resigned this semester to move to the West Coast.

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Irving S. Wright, M.D., F.A.C.P., New York City, was recently presented the Seventh Annual Alumni Award by his Alma Mater, Cornell University Medical College, for outstanding contribution to medical science by an alumnus.

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Dr. Howard A. Rusk, F.A.C.P., New York City, Professor and Chairman of the Department of Physical Medicine and Rehabilitation at New York University College of Medicine, was recently awarded, by the Government of Colombia, the Order of Merit Jose Fernandez Madrid. This is the highest health award for the armed forces of Colombia and was bestowed for his "distinguished service for the armed forces of Colombia."

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Dr. Tom D. Spies, F.A.C.P., Birmingham, Ala., has been awarded the rank of Comendador (Exalted Knight) in the Order of Honor and Merit of the Cuban Red Cross. The distinction was granted for outstanding philanthropic and humanitarian services in Cuba.

Dr. Spies is head of the Department of Nutrition and Metabolism at Northwestern University Medical School and Director of the Nutrition Clinic, Hillman Hospital, Birmingham, Ala. He was decorated at ceremonies in Havana by Brig.

Gen. E. Figarola Infante, President of the Cuban Red Cross, for his work in medical research in nutrition and metabolism and for his contributions toward eradicating tropical sprue.

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Two Fellows of the College, Dr. Robert Frederick Loeb, New York City, Professor of Medicine, Columbia University College of Physicians and Surgeons, and Dr. Thomas Parran, Pittsburgh, Dean of the Graduate School of Public Health, University of Pittsburgh, received honorary degrees from New York University-Bellevue Medical Center upon the occasion of the dedication of the new Medical Science Building on June 2, 1955.

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Dr. Max Pomerance, F.A.C.P., Brooklyn, N. Y., was recently elected to Adjunct Professor and Assistant Attending, Department of Internal Medicine, (Cardiology), New York Polyclinic Medical School and Hospital.

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The American Academy of Allergy has as its new President an Associate of the College, Stanley F. Hampton, M.D., of Richmond Heights, Mo.

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Dr. Herbert Berger, F.A.C.P., Staten Island, N. Y., was elected Vice President of the Medical Society of the State of New York at its recent convention in Buffalo.

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Dr. James B. McLester, F.A.C.P., Birmingham, Ala., has been appointed to the full-time post of Director of Student Health Service at the University of Alabama. His mailing address is P.O. Box 6161, University, Ala.

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At the Annual Meeting of the American Psychosomatic Society held on May 4, 1955, in Atlantic City, two members of the College took office: I. Arthur Mirsky, M.D., F.A.C.P., Pittsburgh, Pa., President-Elect; and William J. Grace, M.D. (Associate), New York City, was elected to a Council position.

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Dr. Jerome G. Kaufman, F.A.C.P., Newark, N. J., has recently assumed the Presidency of the Essex County (N. J.) Medical Society.

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Dr. Francis J. Braceland, F.A.C.P., Hartford, Conn., was recently elected President of the American Psychiatric Association at its meeting in Atlantic City, May 9-13, 1955.

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The President-Elect of the Michigan Society of Neurology and Psychiatry is Dr. Benjamin Jeffries, F.A.C.P., Detroit, Mich.

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The Texas Diabetes Association has elected new officers for the coming year. The College is well represented in this group by: President, Mavis P. Kelsey, M.D., F.A.C.P.; President-Elect, Edwin L. Rippey, M.D., F.A.C.P.; First Vice President, Ralph G. Greenlee, M.D., F.A.C.P.; Secretary-Treasurer, Hugh T. Engelhardt, M.D., F.A.C.P. Councilors: James A. Green, M.D., F.A.C.P.; David W. Carter, Jr., M.D., F.A.C.P.; Merton M. Minter, M.D., F.A.C.P.; George M. Jones, M.D., F.A.C.P.; and Warren W. Moorman, M.D., and Hugh H. Hanson, M.D. (Associates).

Leo H. Crip, M.D., F.A.C.P., Pittsburgh, Pa., addressed the Brooklyn Chapter of the American Academy of General Practice on the subject of "The Management of Asthma" at its recent meeting in Brooklyn, N. Y., on Wednesday, May 4, 1955.

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At the time Dr. William C. Menninger, F.A.C.P., Topeka, Kans., was in Philadelphia attending the 36th Annual Session of the American College of Physicians, he was asked to speak to over 200 high school seniors at the Rotary Youth Career Forum on Wednesday, April 27.

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Dr. Monroe J. Romansky, F.A.C.P., Associate Professor of Medicine, George Washington University School of Medicine, Washington, D.C., presented the first series of lectures in the newly established Lilly Lecture Series for Latin America. These lectures are coordinated with the Voluntary Programs Branch of the International Educational Exchange Service of the Department of State. The subject of Dr. Romansky's discussion was "Principles and Factors Influencing the Trend of Antibiotic Therapy." The lectures were given at medical schools and societies in Mexico City, Mexico; Guatemala City, Guatemala; Bogoto, Colombia; Lima, Peru; Santiago, Chile; Buenos Aires, Argentine; Montevideo, Uruguay; and Sao Paulo and Rio de Janeiro, Brazil. Among these were included the National Institute of Cardiology in Mexico City and the Chilean National Medical Society in Santiago, Chile. In addition, ward rounds and conferences were made in the various hospitals.

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"Evaluation of Certain Cardiac Arrhythmias" was the title of the paper presented before the Third International Congress on Diseases of the Chest in Barcelona, Spain, by James Alexander Lyon, M.D., F.A.C.P., of Washington, D. C.

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Dr. M. Coleman Harris, F.A.C.P., San Francisco, Calif., took part in an Instructional Course recently given in Chicago under the auspices of the American College of Allergists. His paper was entitled, "Pharmacology in Allergies."

Dr. Harris also delivered a paper at the Allergy Section of the California Medical Association Meeting on May 2 entitled, "Is There a Specific Emotional Pattern in Allergic Disease?"

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The new Editor of the *Journal of the Southern Medical Association* is Dr. R. H. Kampmeier, F.A.C.P., Nashville, Tenn., who is also the College Governor for that State. The *Journal* will wear the "new look," the format having been changed materially.

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Maj. Gen. George E. Armstrong, F.A.C.P., retired Surgeon General of the Department of the Army, on June 1, 1955, will become Vice Chancellor for Medical Affairs of New York University.

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#### POST-CONVENTION MEDICAL CRUISE TO HAWAII FOLLOWING LOS ANGELES SESSION

Immediately following the 37th Annual Session of the American College of Physicians at Los Angeles, Calif., April 16-20, 1956, there will be a specially organized medical tour to Honolulu, Hawaii. Mr. Joseph Sims of Raymond-Whitcomb Travel Bureau, 1600 Walnut St., Philadelphia 3, Pa., will be the tour conductor. There will be a choice of going by plane on the evening of April 20 or on the morning of April 21.



The Surfrider and/or the Princess Kaiulani Hotels in Honolulu will be headquarters. Dr. Nils Larsen, College Governor for Hawaii, is acting as advisor to the conductor, and will make up a program, both medical and social, for the College members and their families. It is expected that there will be a joint meeting with the Territorial Medical Association, adequate provision for sightseeing, a Hawaiian Sugar Plantation tour, a Pineapple Plantation tour, a Luau (famous Hawaiian beach dinner and entertainment), and many other typical entertainment features. On April 26 the party will sail on the *S. S. Lurline* of the Matson Line, reaching Los Angeles on the morning of May 1. Those desiring a few extra days in Hawaii may, if desired, return by plane, leaving Honolulu on April 30 or May 1.

On the *S. S. Lurline* on the return trip will be two or more medical programs arranged by the special program committee. Because of the medical features of the tour, it is expected that a portion of the tour expenses may be deducted on a doctor's income tax returns.

Accommodations on the *S. S. Lurline* are limited unfortunately. Those members who particularly desire to return by sea should make at least tentative reservations immediately, for it is anticipated that the accommodations will be exhausted far in advance of the Los Angeles Session. Already more than thirty reservations have been made. This tour promises to be the most attractive ever arranged for the College, a trip long to be remembered, and one conducted under the finest auspices.

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#### THE MALPRACTICE GROUP INSURANCE PLAN OF THE AMERICAN COLLEGE OF PHYSICIANS

The underwriters of Lloyds of London, and of British Companies, executed two years ago a Group Malpractice Insurance Plan for members of the American College of Physicians, the Plan being open to members only. Rates in almost every instance are materially lower than an individual may obtain himself. Furthermore, this Malpractice Group Plan was the only one available that would be effective for members of the College in all the several states and countries where College members practice.

The College and its Committee on Insurance give assurances to all the College members that this Plan is legal in every respect, that the Master Contract is executed with the College in the State of Delaware, the State of incorporation of the College. Furthermore, after two years of experience the Plan has proved fully effective, sound and reliable. Every member who has had a claim or a threatened claim against him, and there have been comparatively few, has received prompt and efficient protection. It is to be regretted that insurance salesmen and agents of other companies have opposed the Group Insurance Plan of the College and distributed in some instances misleading statements to College members, purely in an attempt to retain their Malpractice Insurance business. The College could not afford to endorse an unreliable or illegal Insurance Plan to its members. It is felt that the membership of the College constitutes a superior risk, both from the standpoint of the personal integrity of its members and from the standpoint of their superior ability and restricted field of practice, which eliminates surgery and other classified surgical procedures. Two years of experience have borne out this theory because claims and losses have been minimal—much below the normal for physicians as a whole in the United States.

## ELECTIONS TO MEMBERSHIP, AMERICAN COLLEGE OF PHYSICIANS

This concludes the list of new elections at the Thirty-sixth Annual Session of the College at Philadelphia, Pa., April 25-29, 1955. Inadvertently the following names did not appear in the list published on pages 1352-1359, June, 1955, issue of this journal.

James Raymond Ward .....	El Paso, Tex.
SAMUEL EDWARD WARSHAUER .....	Wilmington, N. C.
Edward Wasserman .....	Bridgeport, Conn.
Charles Watkins .....	New Orleans, La.
LESLIE RICHARD WEBB, JR. ....	Springfield, Mo.
HENRY JOSEPH WEINTRAUB .....	New York, N. Y.
Andor Alvin Weiss .....	New York, N. Y. (VA)
EUGENE WEISS .....	South Bend, Ind.
Raymond Milner Wheeler .....	Charlotte, N. C.
ABRAHAM GEORGE WHITE .....	Forest Hills, N. Y.
Warren Gardner White .....	Muskegon, Mich.
Jacob Samuel Wiener .....	Philadelphia, Pa.
JAMES ARISTA WIER .....	M.C., U. S. Army
BERT(RAM) HIRSH WIESEL .....	Birmingham, Ala.
Park Weed Willis, III .....	Ann Arbor, Mich.
John Grant Wilmer .....	Atlanta, Ga.
ANDREW GERALD WILSON .....	Detroit, Mich.
HENRY EDWARD WILSON .....	Columbus, Ohio
Roger Harris Lebus Wilson .....	San Francisco, Calif.
STEWART McKEE WILSON .....	Rogers, Ark.
Israel Winkler .....	Montreal, Que., Canada
WILLIAM WOLARSKY .....	New York, N. Y.
JACK WALTER WOLF .....	Kansas City, Mo.
James Vickers Woodworth .....	Portland, Ore.
William Robert Woolner .....	New York, N. Y.
Jacob Joseph Yarvis .....	Brooklyn, N. Y.
John Armstrong Yount .....	Pittsburgh, Pa.
Harold Zarowitz .....	Brooklyn, N. Y.
George Wilbur Zeluff .....	Houston, Tex.
Anton Zikmund .....	M.C., U. S. Army
MORRIS ZUCKERBROD .....	Brooklyn, N. Y.
Hyman Samuel Zuckerman .....	Denver, Colo.

## COLLEGE NEWS NOTES

### PRESIDENT'S REPORT

CYRUS C. STURGIS, M.D., F.A.C.P.

#### INTRODUCTION

IN keeping with the change initiated by my immediate predecessor, Dr. LeRoy H. Sloan, I desire to present a short report at this business session rather than during the Convocation.

There are many things that could be discussed at this time. I wish, however, to limit my remarks to a few of our activities which are either new or possess sufficient inherent interest to warrant reiteration. These topics may be enumerated as follows:

1. Research Fellowships and Scholarships of the College
2. The Residents' Revolving Loan Fund
3. The future of the associate membership
4. Financial status of the College and the increase in annual dues
5. The relation of the College to the Joint Commission on Accreditation of Hospitals
6. Television as a medium of postgraduate medical education.

#### FELLOWSHIPS

It is appropriate, desirable, and in keeping with our Constitution and By-laws that we create, maintain and foster various types of Fellowships for research and advanced study. This, I believe, we have done in a highly satisfactory manner.

Since 1934, a period of 21 years, the College has sponsored and supported financially 64 research fellows, selected from the United States and Canada. The total expense for these fellowships has been something over \$200,000.00. Last year the Regents voted to increase the individual fellowships in amounts varying from \$300.00 to \$1,000.00 each in order to equal those provided by the National Research Council.

In the past six years 70 Latin-American Fellows, sponsored jointly by the American College of Physicians and the W. K. Kellogg Foundation, have been selected and provided with the proper training facilities at a total cost of over \$300,000.00. This sum has been supplied by the Kellogg Foundation of Battle Creek, Michigan. As a result, we have fostered good will with our South American neighbors through these Latin-American Fellows, who will return to their native countries after an average length of training in the United States of 18 months. Practically all of them will assume teaching positions in their home countries, and some undoubtedly

will become the leading internists of South America. This experience has been valuable also because it has permitted us to establish an optimum pattern of training for foreign physicians which I believe is a real contribution.

The A. Blaine Brower Traveling Fellowship Fund was established in 1950 with a gift of \$10,000 by Dr. Brower of Dayton, Ohio, and this provides about \$400.00 annually, which is used to permit a month's postgraduate training for a young physician each year. There are now three traveling scholarships awarded annually. These are the Brower, the Elizabeth Archbold Bowes, and a third one provided from College funds by the Regents. To date, eight young physicians have received this type of scholarship, and three and possibly four awards will be made each year henceforth.

For several years a fourth type of scholarship has been provided by Mead, Johnson and Company, of Evansville, Indiana. This firm has contributed \$3,000.00 annually to provide three \$1,000.00 scholarships to residents in their training period. The sum of \$9,000.00 has been advanced from this source to date.

In summary, then, in the past 21 years a total of over \$500,000.00 has been expended by the College in supporting scholarships of various types. In my opinion, there is no investment which yields more certain and gratifying returns.

#### RESIDENCY LOAN FUND

An additional form of financial assistance, calculated to assist medical residents during their training period, was established at the November, 1954, Regents' meeting. This plan is to set aside \$20,000.00 a year for five years, to be loaned to residents in accredited hospitals. No interest will be charged for the first three years after the internship is completed, and then it will be at a low rate, probably 3%. Ten years will be allowed to repay the loan. This fund was created because a large number of residents are married and have children, often their training has been delayed by service in the Armed Forces, and the stipend usually paid by the hospitals is inadequate to support the resident and his family. The College is not really expending this money, but lending it for an excellent cause. Experience with similar projects indicates that almost all such money advanced will eventually be repaid with interest. Plans are now being made to activate this fund. Information recently obtained leads me to believe that a similar amount for the same purpose may soon be advanced by one of the larger Foundations.

#### THE FUTURE OF THE ASSOCIATE MEMBERSHIP

About one third of our members at present are Associates who are regarded as having a probationary status, but with a strong conviction that

eventually all but a few will become permanent members as Fellows within the allotted 10 year period. In 1954, however, the Board of Governors passed a resolution recommending that the associate type of membership be abolished hereafter. The reasons given for this action were two: (1) It was poor policy to elect a member as an Associate and then later exclude him from permanent membership as a Fellow. (2) Eventually with a 10 year associateship, the number of such members might increase until they actually dominate the organization.

The principal arguments favoring the retention of the associate membership were: (1) It provides a desirable period during which time the candidate's qualifications for fellowship can be evaluated accurately. (2) If an Associate has such a goal before him, it serves as a useful and practical stimulus for the growth of desirable professional and ethical principles. (3) It permits the College to admit members at an earlier age than is possible if only the fellowship class existed.

My recommendation was wholeheartedly for retention of the associate membership, and this action was sustained almost unanimously by the Regents at their November, 1954, meeting, when they rescinded the action of the Board of Governors. The status of the associate membership, therefore, remains unchanged. On the other hand, abolition of the associateship is favored by some of our most valuable officers and members. Nevertheless, I do not believe that this action should be taken at present, and never unless conditions change radically.

#### THE FINANCIAL STATUS OF THE COLLEGE AND THE INCREASE IN ANNUAL DUES

The dues in this organization had not been increased for more than 26 years, and despite the fact that their payment includes the subscription to the *Annals of Internal Medicine*, obviously they have been nominal in amount. This fact, coupled with the knowledge that our financial commitments are numerous and are constantly increasing, caused the Regents at their November meeting to increase the dues of the Associates \$3.00 and those of the Fellows \$5.00 per annum. This advance, which was somewhat smaller than I had recommended, will bring in an added income of about \$30,000.00 annually.

With the income from the endowment fund, which is increasing slowly in size each year; the careful management of our general funds; the increased income from the larger dues; the profit made by the *Annals of Internal Medicine*, and support of the annual meeting by the charges made to commercial exhibitors, it may be said that the financial condition of the organization is sound. This is a tribute to the excellent management it has received. There is, however, no great surplus available for any new projects requiring large financial support.

### THE JOINT COMMISSION ON THE ACCREDITATION OF HOSPITALS

Thirty-five years ago the American College of Surgeons, our sister organization, instituted the pioneer survey of hospitals. This was designed to improve the care given to patients. They were concerned, however, more with attention to patients in the divisions of general surgery and the surgical specialties. In 1952 it was decided to shift this burden of accreditation to a group of five medical organizations, namely, the American College of Surgeons, the American Medical Association, the American Hospital Association, the Canadian Hospital Association, and the American College of Physicians. This decision was made for two main reasons: first, it divided the expense of making the surveys, which was considerable, as our own present contribution is over \$30,000.00 annually; and second, it was recognized that hospital surveys of the past have been largely surgical in nature. For example, with the recent method of evaluation by the point system, only 65 points of the total 1,000 were apportioned to Internal Medicine. It is obvious from this figure alone that the scope of the investigation of any given hospital should be far more general.

I wish to urge that the American College of Physicians in every way give full support to this venture, which undoubtedly will raise and maintain a high level of hospital efficiency. Under the new Director of the Commission, Dr. Kenneth B. Babcock, formerly Director of the Grace Hospital in Detroit, it is my opinion that, in the immediate future, great advances will be made in this worthy project.

### TELEVISION AS A MEDIUM OF POSTGRADUATE MEDICAL EDUCATION

On September 23, 1954, the American College of Physicians, in conjunction with the Wyeth Laboratories of Philadelphia, conducted the initial coast-to-coast one-hour closed circuit telecast to an audience of about 8,000 physicians. The subject, the treatment of hypertension, was discussed by four distinguished physicians in this field. A large number of kineoscopic reproductions were made, and from these it is estimated that 30,000 to 40,000 additional members of the profession will view this presentation.

Of the 1,200 questionnaires returned by the audiences who viewed the telecast, there was almost uniform agreement concerning the following: first, that television was an excellent medium for disseminating medical knowledge at a postgraduate level, and furthermore, that it might properly become an important function of the College; second, that there was some difference of opinion regarding the precise value of the various forms of therapy discussed, but this was to be expected; third, that there were a few who objected rather emphatically to having such a project financed by a drug firm. It should be pointed out, however, that these same firms advertise in the *Annals of Internal Medicine*, and show their products in the commercial exhibits at the annual meetings. I do not object to their



financial support of such a telecast, but I do *not* think it can be regarded as the ultimate means of supporting this type of activity.

Of one thing I am sure. Television is probably the best solution of the week-by-week postgraduate medical teaching at a community level, and I predict a certain and successful future for it. The greatest problem to be solved, and the answer *will* be found eventually, is who will furnish funds to support such a project continuously. It is too expensive to be undertaken by the American College of Physicians, there is some uncertainty of continuous support if underwritten by a drug firm, and it is not always possible to receive extended financial assistance from a Foundation interested in medical progress. My guess is, if financial aid could be found for a series of well planned telecasts, say, one a month for eight continuous months, and the *value* of this type of teaching could thereby be demonstrated, some method would be devised whereby physicians themselves would provide the funds for an indefinite continuation of such a valuable form of postgraduate education.

And now, in closing, let me say that my service as your President has afforded me numerous delightful experiences. I am left with many fine thoughts about the American College of Physicians and its members. Two are especially impelling. They are, first, that the more I learn of this College, the greater the admiration I have for it. In less than 50 years it has developed into a great organization with a tremendous power to do things that are worth while. Each year of its existence has witnessed a persistent, desirable, aggressive expansion of its activities. This is the principal reason that it continues to thrive and expand its influence.

And second, but none the less important, let me say that one of the most engaging aspects of being your President has been the opportunity it provided for me to meet and become better acquainted with my fellow members. By this I do not mean just the Officers, Regents and Governors, but the rank and file of our membership. I have found them uniformly to be physicians of the highest order, unfailingly gentlemanly, and the type of person one is proud to call his friend. To all of you I extend my deepest and most sincere thanks for the opportunity I have had to serve you as President during the past year.

## MINUTES OF THE ANNUAL BUSINESS MEETING

Philadelphia, Pa.

April 28, 1955

The Annual Business Meeting of the American College of Physicians was held during the 36th Annual Session, April 28, 1955, at 2:00 p.m., in the Auditorium of the Philadelphia Convention Hall, Philadelphia, Pa. Dr. Cyrus C. Sturgis, President, presided and Mr. Edward R. Loveland was Secretary.

President Sturgis declared a quorum and announced that the Minutes of the previous Annual Business Meeting had been published in the *Annals of Internal Medicine*, and by acclamation the reading of the Minutes of the previous Annual Business Meeting was dispensed with.

Dr. T. Grier Miller, Chairman of the Committee on Fellowships and Awards, announced recipients of Research Fellowships, Traveling Scholarships and Mead Johnson Postgraduate Residency Scholarships, as follows:

(a) 1955-56 Research Fellowships:

(1) *Dr. John Edmund Bethune*

A graduate of Dalhousie University Faculty of Medicine, 1953; to work under Dr. George W. Thorn, Peter Bent Brigham Hospital, Boston, Mass., on the relationship of the chemical structure of adrenal steroids to physiological action in man; \$4,500.00.

(2) *Dr. David Morris Kipnis*

A graduate of the University of Maryland School of Medicine, 1951; to work under Dr. Carl Cori, Professor of Biochemistry, Washington University School of Medicine, St. Louis, Mo., on the defect in fatty acid metabolism associated with diabetes mellitus; \$3,900.00.

(3) *Dr. Dan Anderson Martin*

A graduate of Harvard Medical School, 1952; to work under Dr. Kerr L. White and Dr. David P. Jones, University of North Carolina School of Medicine, Chapel Hill, N. C., on the influence of adverse life situations and emotions on the precipitation and exacerbation of congestive heart failure; \$4,200.00.

(4) *Dr. Calvin Alpheus Stanfield*

A graduate of the University of Rochester School of Medicine, 1953; to work under Dr. Herbert R. Morgan, Department of Bacteriology, University of Rochester School of Medicine, Rochester, N. Y., on a study in tissue culture, the delayed (tuberculin) type of hypersensitivity characteristic of streptococcal and tuberculous infections; \$3,900.00.

(5) *Dr. Albert I. Winegrad*

A graduate of the University of Pennsylvania School of Medicine, 1952; to work under Dr. George W. Thorn, Peter Bent Brigham Hospital, Boston, Mass., on proposed investigation in the physiology and patho-physiology of the adrenal cortex; \$3,300.00.

(6) *Dr. Thomas T. Amatruda, Jr. (Alfred Stengel Research Fellow)*

A graduate of Yale University School of Medicine, 1951; to work

under Dr. Frank L. Engel, Duke University School of Medicine, Durham, N. C., on a study of the hormonal control of fat metabolism; \$5,000.00.

(b) 1955 *A. Blaine Brower Traveling Scholarships*:

(1) *Dr. Robert W. Frelick, Wilmington, Del. (Associate, ACP)*

Has already completed his program divided between Dr. William Dameshek, Blood Research Laboratory, New England Center Hospital, Boston, and Dr. M. M. Wintrobe, Department of Internal Medicine, Salt Lake County General Hospital, Salt Lake City.

(2) *Dr. C. Thomas Hagan, Wichita, Kans. (Associate, ACP)*

Program will be carried out during the month of May under Dr. Andre Courmand at Columbia University, and under Dr. Truman G. Schnabel, Jr., University of Pennsylvania, in the field of cardiac catheterization, and other laboratory procedure related thereto.

(c) 1955 *Elizabeth Archbold Bowes Memorial Traveling Scholarship*:

(1) *Dr. Judah L. Guravich, Lancaster, N. B., Canada (Associate, ACP)*

Work carried out under Dr. Samuel A. Levine, Peter Bent Brigham Hospital, Boston, Mass., in the field of clinical cardiology, congenital heart disease, cardiac catheterization, electrocardiography, etc. This traveling scholarship is restricted to Canadian Associates of the College, and this is the first award.

(d) 1955 *Mead Johnson Postgraduate Scholarships*:

(1) *Dr. Albert Reginald Cox*

Assistant Resident in Medicine, Vancouver General Hospital, Vancouver, B. C., Canada.

(2) *Dr. Allan Louis Forbes*

Assistant Resident in Medicine, Medical College of Virginia Hospital Division, Richmond, Va.

(3) *Dr. Donald L. Rasmussen*

Resident in Medicine, University of Utah, Salt Lake City, Utah.

Dr. Ramon M. Suarez, member of the Committee on Latin-American Fellowships, announced that awards of Latin-American Fellowships for 1954-55 had been made to the following:

- (1) Dr. Alfredo Ramiro BASTO, Professor of Therapeutical Clinic, University of Alagoas Faculty of Medicine, Alagoas, Brazil.
- (2) Dr. Renato Piza de Souza CARVALHO, Assistant Professor of Microbiology and Immunology, University of Sao Paulo Faculty of Medicine, Sao Paulo, Brazil.
- (3) Dr. Amaury Domingues COUTINHO, Associate Professor of Internal Medicine, University of Recife Faculty of Medicine, Recife, Pernambuco, Brazil.
- (4) Dr. Jorge A. FERNANDEZ Mendia, Associate Professor of Medicine, University of San Carlos Faculty of Medicine, Guatemala City, Guatemala.
- (5) Dr. Jacques HOULI, Department of Rheumatology and Bone Diseases of the 5th Chair of Internal Medicine, University of Brazil Faculty of Medicine, Rio de Janeiro, Brazil.

- (6) Dr. Luis LANDA Verdugo, Hospital de Enfermedades de la Nutricion, Mexico, D. F.
- (7) Dr. Luis Carlos MAAS, Professor of Medicine, University of Asuncion Faculty of Medicine, Asuncion, Paraguay.
- (8) Dr. Radi MACRUZ, Hospital das Clinicas, Sao Paulo, Brazil.
- (9) Dr. Guillermo PORRAS Garcia, General Hospital, Managua, Nicaragua.
- (10) Dr. Jayme ROZENBOJM, Assistant Professor of Gastro-enterology, University of Sao Paulo Faculty of Medicine, Sao Paulo, Brazil.
- (11) Dr. Augusto SCHUSTER Cortes, Pediatrics Department, Children's Hospital "Roberto Del Rio," Santiago, Chile.
- (12) Dr. Juan Ivica SERKOVIC Lujak, Instructor in Pathological Physiology, University of San Marcos Faculty of Medicine, Lima, Peru.

The Treasurer, Dr. William D. Stroud, presented the following report:

"Mr. President, Masters and Fellows of the College: The Statements of Operation of the College for 1954, along with the Certified Public Accountant's report, will be published in the *Annals of Internal Medicine* in the near future, for the information of all the members.

"During the year 1954, the College added to its General Fund \$62,768.67; to its Endowment Fund \$28,894.20, and to its Restricted Funds \$155.00, total of \$91,817.87.

"The Gross Assets of the College, as of December 31, 1954, amounted to \$1,195,715.16, divided as follows:

Endowment Fund .....	\$441,215.45
James D. Bruce Fund .....	10,000.00
A. Blaine Brower Fund .....	20,000.00
General Fund .....	722,917.99
Restricted Funds .....	1,581.72

"The College has operated within its Budget. The investments of the College and the custodianship of such investments are supervised by a competent and reliable Investment Counselor, Drexel & Co., with whom the Committee on Finance maintains close contact and direction. As of December 31, 1954, the College held investments at Book Value totalling \$1,041,155.71, which, by the current month, April 1, 1955, had reached \$1,123,879.56, having a Market Value of \$1,513,442.00, or an Appreciation over the original cost of \$389,562.44. The average yield for 1954 was 3.55%, based on current market value, rather than book or cost price. Obviously, the actual yield on cost value was considerably higher.

"The Board of Regents has approved a Budget for 1955 calling for an estimated Income of \$418,045.00 and an estimated Expenditure of \$383,296.00.

"The financial policies of the College and of the Committee on Finance have been conservative and have been administered with care and diligence.

Respectfully submitted,

WILLIAM D. STROUD, Treasurer."

By resolution unanimously adopted, the Annual Report of the Treasurer was accepted.

The Executive Secretary, Mr. Edward R. Loveland, presented the following Annual Report:

"Mr. President, Masters and Fellows of this College: This report merely supplements those of the President, the Treasurer and the Secretary-General. Together we work and together we proudly report the accomplishments of the College.

"*Annals of Internal Medicine*: It does not seem so long ago that we spoke of a circulation of 1,500 or 2,000, and reported a deficit on the publication of this journal,

then one of the newer publications devoted to Internal Medicine. Today more than 19,000 copies, an increase of about 2,000 since a year ago, are distributed monthly, going to every country of the world. The *Annals*, because of its recognition, due to our Editor, Dr. Maurice C. Pincoffs, and a very active Editorial Board, has outstripped the circulation of much older journals in its field, and occupies a position in the forefront of medical publications. The journal has been improved also in its physical aspects by using better coated paper, resulting in better illustrations. In process in our Editor's Office is the preparation of a Cumulative Index of the journal from 1927 to date, and beginning July 1, 1955, each scientific article will have at its end an abstract published in Interlingua.

*"College Directory:* The College Directory, published biennially, has become a useful and important reference book of internists and related specialists. A new edition is in process of publication this year.

*"Affiliated Activities:* The College continues support of and functions with the American Board of Internal Medicine, appointing seven of its twelve members and receiving regularly reports from the Chairman at each meeting of its Board of Regents. The College is a serviceful and practical institution. In addition to the many services that have been reiterated in the various reports, the College sponsors for the benefit of its members liberal, reliable and successful Insurance Plans—(1) Health and Accident; (2) Professional Liability or Malpractice; (3) Dread Diseases. After two years' trial, these Plans have proved to be practical, reliable and in almost every case superior to other plans available throughout the College membership. The experience of the carriers has been so favorable that already additional benefits have been added, as, for instance, an optional ten-year Health and Accident coverage, additions of benefits under the Dread Diseases program and the prospect of further reductions in the premium schedule for malpractice. The recent announcement of a change in the name and location of the College agents is merely indicative of improvements in the methods of operation of the Insurance Plans. The administration office has been moved to a building adjoining the College Headquarters and the Messrs. Claypoole, who were associated with the previous administrative office, will continue as the College agents and brokers.

"We announce two additions to the College Staff—Mr. Herbert N. Morford, as Assistant Executive Secretary, and Mr. Paul L. Cotton, as an Executive Assistant; Mr. Cotton being charged particularly with the administration of the membership department. Mr. H. Kurtz Canby terminated his services March 1, 1955, to enter a different line of endeavor.

"I would recognize with appreciation the loyal and intelligent services of another of our Executive Staff, Miss Pearl M. Ott, and, in fact, of my entire staff, each of whom becomes an integral part of this institution. None of us, or all of us put together, however, could accomplish little were it not for the ever ready aid and counsel of our Officers, our Regents, our Governors and our members everywhere. The last year has been a year particularly inspiring and stimulating to us, working under the leadership of Dr. Sturgis as our President.

"We have just received from the Registration Desk a report that the total registration at this meeting is 6,380, of which 819 are ladies.

Respectfully submitted,

EDWARD R. LOVELAND, Executive Secretary."

DR. CYRUS C. STURGIS: "As retiring President, I assure all of you that it has been a great pleasure to work with Mr. Loveland. He has been the mainstay of the College for a great many years."

By resolution unanimously adopted, the Annual Report of the Executive Secretary was accepted.

Mr. Ralph O. Claypoole, Administrator of the Group Insurance Plans of the American College of Physicians, made the following report:

"In connection with the College Health and Accident Plan, installed on April 15, 1953, Certificates are in force for over 3,600 members. We have settled over 750 claims, with total benefits to members exceeding \$314,000.00. For the first year the total claims were \$108,000.00, and during the second year they amounted to \$200,000.00. The plan is expanding, subscribers are increasing, claims are being paid promptly, and we, the Group Insurance Administrators of the American College of Physicians, are embarked upon a program of ever increasing service to the members. We now occupy offices in a building adjoining the College Headquarters, thus to further facilitate and improve our work.

"The College has obtained an extended five-year sick benefit option, applicable to those members who wish to apply and who qualify. If 75% of the previously insured members apply for this extended benefit, College members will be able to obtain it without underwriting. To date we need about one thousand more applications and when we obtain those all members can come in regardless of their past medical history. We need the early coöperation of present policy holders. Those members who have applied for this extended coverage, and have submitted their checks, will receive, if their health is satisfactory, an endorsement to their present Certificates in a short time.

"1,354 members hold Professional Liability coverage in our Group Plan. There has been a remarkably small number of claims. In over two years the total cost of settlements has been only \$5,030.95. This experience is even better than anticipated, although it has been confidently expected that claim experience would prove that members of the American College of Physicians constitute highly preferred risks. Because of this experience we look forward to reduced rates in the future, although our rates are probably now lower than manual rates in every state.

"Over 1,300 members of the College have subscribed to the Group Dread Diseases coverage. There have been 12 claims; benefits paid amount to over \$3,600.00.

"The future for our Insurance Plans appear particularly bright and promising; we wish to encourage an ever increasing participation among College members."

PRESIDENT STURGIS: "Mr. Claypoole, I can testify to the promptness of your payment of claims, because I had a claim some months ago and the money came back almost by return mail, far ahead of returns from other insurance."

Dr. Richard A. Kern, Secretary-General, presented the following Annual Report:

"Mr. President, Regents, Governors, Masters and Fellows of the College: I shall report to you certain data significant in the progress of the College.

"*Membership:* Since the last Annual Session of this College there have been elected 3 Masters, 255 Fellows and 598 Associates. We have lost by death, or other causes, 96 Fellows, 19 Associates; our present membership, therefore, consisting of:

Masters .....	19
Fellows .....	5,819
Associates .....	2,895
	<hr/>
	8,733

"*Life Members:* Since the last Annual Session of this College, 79 Fellows have become Life Members, bringing the total to 1,316, of whom 135 are deceased, leaving a balance of 1,181.

"*Postgraduate Courses:* The Committee on Postgraduate Courses, which is an instrument of our Board of Governors, during the autumn semester of 1954 conducted nine courses, with a registration of 753 physicians. During the current spring of



1955, eight additional courses have been scheduled, some of them oversubscribed, with an estimated registration to the end of June of 708 physicians. In this period of twelve months, therefore, it is anticipated that no less than 1,461 physicians will have pursued College courses.

*"Regional Meetings:* During the calendar year of 1954, 25 Regional Meetings were conducted in various states, provinces or territories, with a total registration of 3,552. In 1955 there have been conducted 15 Regional Meetings, and many are being scheduled for the autumn months. The Regional Meeting programs are conducted by members of the Board of Governors and fulfill an important place in the regional area of the members, affording opportunity for a larger participation by the local members and particularly by the younger members.

"Of prime importance, however, in all the conclaves of the College in North America is the Annual Session of the College, such as this in Philadelphia, which is the outstanding example of the accomplishments of a year's coördinated effort, which each year is a milestone in the history of Internal Medicine and of the College on this Continent.

Respectfully submitted,

RICHARD A. KERN, Secretary-General."

By resolution unanimously adopted, the Annual Report of the Secretary-General was accepted.

Dr. Kern then addressed President Sturgis:

"Mr. President, since you attained Fellowship in this College twenty-seven years ago, you have served it faithfully, well and with distinction in an official career that began in 1947 with your election as a Regent, then as President-Elect in 1953, and finally as President, 1954-55.

"In that career you accomplished many things for the good of the College, but a signal achievement was your work for the program on Latin-American Fellowships. This program was made possible by your success in interesting the Kellogg Foundation and obtaining its support. It was made effective and increasingly fruitful by your skill as an educator.

"You have, therefore, contributed more than any other member of this College toward better inter-American understanding and toward stimulating progress in teaching, research and practice in the field of Internal Medicine among our Latin-American neighbors.

"To our Presidency you brought your talents as an administrator, your tact as a born diplomat and the ready wit and humor to help us over many a rough spot—qualities that have endeared you to us all.

"Until now the gavel of your Presidency was the symbol of your authority. Today it becomes a token of grateful appreciation of your service, a memento of the affection and esteem in which you are held by the Masters, Fellows, Governors, Regents and Officers of the American College of Physicians, on whose behalf it is my privilege to present it to you." (Applause)

DR. STURGIS: "Thank you, Dr. Kern. This comes as a very pleasant surprise. My time as President now ceases, and doubtless there have been better Presidents of the American College of Physicians than I, but I am sure there has never been a President who has enjoyed his work more than I have. Each year I have had a growing appreciation for what a great organization this is, a fine, upright, skilled group—and it always will stand for those principles (applause).

"Now it becomes my pleasant duty to turn over the gavel to our President-Elect, Dr. George F. Strong, of Vancouver, British Columbia. I have probably known him better than any one in this hall. My acquaintance with him goes back to 1922, 32 years ago, when he was on the staff of the Peter Bent Brigham Hospital in Boston.

I can assure you he is a man of great enthusiasm, dependability, insight and that he will make a wonderful President of the American College of Physicians."

(Dr. Sturgis then presented to Dr. Strong the President's Gavel, amid applause of the audience, and Dr. Strong assumed the Chair.)

PRESIDENT GEORGE F. STRONG: "Members of the College, it is my first duty to thank you for the high honor you have bestowed on me as your President for the next year. I thank you most heartily. I feel next that you would have me, on your behalf, extend to Dr. Sturgis, our recently retired President, and to his very efficient General Chairman, Dr. Thomas M. Durant, our sincere thanks for this most wonderful meeting (applause). The attendance sets an all-time high. That attendance in itself attests to the splendid program that these gentlemen have been able to arrange for us. Dr. Kern has already said some of the things that I had planned to say about Dr. Sturgis. In addition to his ability in bringing together this excellent program, Dr. Sturgis served this College remarkably well. It was through the leadership of Dr. Sturgis that this College accomplished many things, the latest being the establishment of a Residency Loan Fund, which will be a great aid to young men desiring to fit themselves for the specialty of Internal Medicine. Dr. Sturgis has been an inspiration to all of us, and the College has been fortunate indeed to have such a man.

"Dr. George C. Griffith, the General Chairman for next year, and I shall both welcome you to the meeting in Los Angeles in April, 1956. We hope we can put before you a program that will compare in excellence with this program and we trust that the attendance out there will be as great as it is here in Philadelphia.

"We shall now proceed with the agenda. Dr. Wallace M. Yater, Chairman of the Committee on Nominations, will present nominations for Officers, Regents and Governors for the ensuing year."

DR. WALLACE M. YATER: "Mr. President, the Committee on Nominations, appointed in accordance with the By-Laws of the College, places in nomination the following names for the Elective Officers of the College:

*President-Elect* ..... Dr. Walter L. Palmer, Chicago, Ill.  
*First Vice President* ..... Dr. Edward L. Bortz, Philadelphia, Pa.  
*Second Vice President* ..... Dr. Edward C. Reifenstein, Sr., Syracuse, N. Y.  
*Third Vice President* ..... Dr. Leland Hawkins, Los Angeles, Calif."

... President Strong invited nominations from the floor. There were none. Individual resolutions for each Officer were regularly adopted, electing each of the above nominees. ...

DR. YATER (Continuing): "The Committee places in nomination the following name for election as a Regent of the American College of Physicians, for term expiring in 1957, to conclude the unexpired term of Dr. Walter L. Palmer:

Dr. Wann Langston, Oklahoma City, Okla."

... President Strong invited nominations from the floor. There were none, and a resolution was regularly adopted unanimously providing for the election as a Regent of Dr. Langston for term expiring in 1957. ...

DR. YATER (Continuing): "The Committee places in nomination the following five names for election as Regents of the American College of Physicians, for term expiring in 1958:

Dr. Herbert K. Detweiler, Toronto, Ont., Can.  
 Dr. Howard P. Lewis, Portland, Ore.  
 Dr. Joseph D. McCarthy, Omaha, Nebr.  
 Dr. Cyrus C. Sturgis, Ann Arbor, Mich.  
 Dr. Dwight L. Wilbur, San Francisco, Calif."

... President Strong invited nominations from the floor. There were none, and a resolution was unanimously adopted providing for the election of the above five nominees as Regents, for term expiring in 1958. ...

DR. YATER (Continuing): "The Committee places in nomination as Governor for New Mexico, for term expiring in 1957, to conclude the unexpired term of Dr. Walter I. Werner, deceased, the name of:

Dr. Robert Friedenberg, Albuquerque, N. M."

... President Strong invited nominations from the floor. There were none, and a resolution was unanimously adopted electing Dr. Robert Friedenberg as Governor for New Mexico, for term expiring in 1957. ...

DR. YATER (Continuing): "The Committee places in nomination the names of the following men as Governors of the American College of Physicians, for term expiring in 1958:

Dr. George C. Griffith, Los Angeles	CALIFORNIA (Southern)
Dr. Constantine F. Kemper, Denver	COLORADO
Dr. John C. Leonard, Hartford	CONNECTICUT
Dr. John Minor, Washington	DISTRICT OF COLUMBIA
Dr. Charles H. Drenckhahn, Urbana	ILLINOIS (Southern)
Dr. James O. Ritchey, Indianapolis	INDIANA
Dr. William C. Menninger, Topeka	KANSAS
Dr. Richard P. Stetson, Boston	MASSACHUSETTS
Dr. Edmond M. Walsh, Omaha	NEBRASKA
Dr. John H. Talbott, Buffalo	NEW YORK (Western)
Dr. Bert F. Keltz, Oklahoma City	OKLAHOMA
Dr. Thomas M. McMillan, Philadelphia	PENNSYLVANIA (Eastern)
Dr. Frank J. Gregg, Pittsburgh	PENNSYLVANIA (Western)
Dr. Charles F. Morsman, Hot Springs	SOUTH DAKOTA
Dr. Rudolph H. Kampmeier, Nashville	TENNESSEE
Dr. Theodore C. Bauerlein, Salt Lake City	UTAH
Dr. Nils P. Larsen, Honolulu	HAWAII
Dr. H. Archibald Des Brisay, Vancouver	BRITISH COLUMBIA
Dr. Ray F. Farquharson, Toronto	ONTARIO
Dr. Ignacio Chavez, Mexico City	MEXICO
Dr. Amadeo Vicente-Mastellari, Panama	REPUBLIC OF PANAMA and the CANAL ZONE."

... President Strong invited nominations from the floor. There were none, and a resolution was unanimously adopted electing the above nominees as Governors for their respective territories, for term expiring in 1958. ...

DR. YATER (Continuing): "The Committee on Nominations wishes to announce that under provisions of the By-Laws, providing that the Surgeon General of the United States Air Force, the Surgeon General of the United States Army, the Surgeon General of the United States Navy and the Medical Director of the United States Veterans Administration shall be members of the Board of Governors, representing those Services, that

Major General Dan C. Ogle, (MC), USAF,

will at this time become the official Governor for the United States Air Force, and that

Major General Silas B. Hays, (MC), USA,

on June 1, 1955, will become the official Governor for the United States Army; that

Rear Admiral Bartholomew W. Hogan, (MC), USN,

will at this time become the official Governor for the United States Navy, and that

Dr. William S. Middleton

will at this time become the official Governor for the United States Veterans Administration.

"Mr. President, this report is respectfully submitted by the Committee on Nominations, consisting of Dr. Philip S. Hench, Dr. Stacy R. Mettier, Dr. H. Marvin Pollard, Dr. Eugene C. Eppinger and Dr. Wallace M. Yater, Chairman."

President Strong then appointed a Committee of Two, Dr. Howard P. Lewis and Dr. Howard Wakefield, to escort the new President-Elect, Dr. Walter L. Palmer, to the rostrum. . . . (Applause) . . .

DR. WALTER L. PALMER: "President Strong, Ex-President Sturgis, Fellows and Masters of the College, thank you very much. I appreciate greatly the confidence you have shown in extending to me this opportunity and responsibility. This is a truly great organization. I assure you that I shall do my best to carry on and maintain the tradition of splendid service established by Dr. Sturgis and by his predecessors in office." (Applause)

PRESIDENT STRONG: "The newly elected Governors who have not served previously, or other Governors who may be interested, are invited to meet at 3:30 p.m. today in the Regents-Governors Room with the Chairman of the Board of Governors, the President, the Executive Secretary, the Chairman of the Committee on Credentials, and other Officers.

"Dr. Howard P. Lewis desires to offer a resolution."

DR. HOWARD P. LEWIS: "Mr. President, I desire to offer this resolution:

"To our beloved and distinguished President, Dr. Cyrus C. Sturgis, whose leadership during the past year has been a source of inspiration to all of us, and whose outstanding and stimulating program of Morning Symposia and General Sessions at this meeting has been worthy of the highest praise;

"To the General Chairman, Dr. Thomas M. Durant, for his leadership in local arrangements, and in the development of other portions of the program;

"To the Chairmen of the local Philadelphia Committees:

Dr. Edward L. Bortz, Chairman of the Committee on Entertainment;

Dr. Charles L. Brown, Chairman of the Committee on Publicity;

Dr. Julius H. Comroe, Jr., Chairman of the Committee on Clinical-Physiological Conference;

Dr. Garfield G. Duncan, Chairman of the Committee on Panels;

Dr. Kendall A. Elsom, Chairman of the Committee on Televised Clinics;

Dr. Thomas E. Machella, Chairman of the Committee on Hospital Clinics;

Dr. George Morris Piersol, Chairman of the Committee on Technical Exhibits;

Dr. Truman G. Schnabel, Chairman of the Committee on Clinical-Pathological Conferences;

Dr. William A. Steiger, Chairman of the Committee on Auditorium;

Dr. John H. Willard, Chairman of the Committee on Hotels and Transportation,

and to the individual members of each of these Committees for all of their arduous, devoted and extremely successful efforts;

"To Mrs. Agnes H. Stroud, charming and infinitely capable Chairman of the Committee on Ladies' Entertainment, and to all the members of her outstanding committee for their splendid program;

"To Dr. Eugene Ormandy and the members of the Philadelphia Symphony Orchestra for an evening of musical delight long to be remembered by a large and enthusiastic College audience;

"To Sharp & Dohme, to Mr. W. L. Dempsey, its President, and Mr. Seth Baker, Director of Public Relations, for their generous gift which made this Concert possible;

"To Smith, Kline & French for the televising of the special clinics arranged for that purpose;

"To the Philadelphia Convention Bureau, of which Mr. James Morrison is Director;

"To all of these and many others, individually and collectively, our heartfelt thanks again for their manifold contributions to the success of this memorable meeting and for their most generous hospitality." . . . (Wide applause)

PRESIDENT STRONG: "Your applause has successfully carried that resolution unanimously. The agenda for this Annual Business Meeting has been concluded, and I declare the meeting adjourned."

Adjournment (2:55 p.m.).

Attest: E. R. LOVELAND

*Secretary*

DIAGNOSES OF THE CASES DISCUSSED AT CLINICAL-  
PATHOLOGICAL CONFERENCES AT THE THIRTY-  
SIXTH ANNUAL SESSION OF THE AMERICAN  
COLLEGE OF PHYSICIANS, PHILADELPHIA,  
1955

**Clinical-Pathological Conference No. 1, Tuesday, April 26. Case 1.** Pathologist:  
BENJAMIN CASTLEMAN, M.D., Boston, Massachusetts.

*Anatomic Diagnoses*

Coronary heart disease with mural thrombus, left ventricle, with secondary infection.  
Myocardial rupture, left ventricle through septic thrombus into left thorax.  
Hemothorax, left (2500 c.c.), with secondary infection.  
(Septicemia, B. hemolytic streptococcus.)  
Myocardial infarction, old, anterior aspect of left ventricle and anterior septum.  
Myocardial aneurysm, left ventricle.  
Coronary sclerosis, severe.  
Pulmonary congestion and edema, right lower lobe, mild.  
Bronchopneumonia, right lower lobe, mild.  
Atelectasis, left lung, due to compression.  
Cerebral infarcts, multiple, cerebral hemispheres, cerebellum.  
Diverticulosis, sigmoid.  
Hydrothorax, right (100 c.c.).  
Arteriosclerosis, generalized, mild.  
Pericarditis, fibrous, old, obliterating pericardial cavity.  
Ascites, 200 c.c.

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**Clinical-Pathological Conference No. 1, Tuesday, April 26. Case 2.** Pathologist:  
TOBIAS WEINBERG, M.D., F.A.C.P., Baltimore, Maryland.

The lungs completely filled the thoracic cavity. In addition to obvious emphysema, there was a striking plugging of the smaller bronchi in all lobes by a tenacious mucus. Microscopically, the plugging of the smaller bronchi by mucus plugs and the extensive emphysema were confirmed in sections taken from all lobes of both lungs. In addition to the histologic features of a chronic bronchitis the basement membranes of many of the bronchi showed a distinct hyaline thickening which is characteristically found in cases of bronchial asthma. The heart weighed 240 grams and showed some dilatation of the right ventricle, but was otherwise not remarkable.

The striking feature of the postmortem examination was the obvious atrophy of both adrenals, the right weighing 3.0 grams and the left 3.5 grams. Grossly, the adrenals lacked the characteristic golden yellow color of the normal cortex, being distinctly brown. Microscopically, the adrenals showed a striking decrease in the size of the zona fasciculata, apparently due to a decrease in the size of the individual cells rather than to a loss of cells. Sudanophilic material was meager in amount throughout the cortex.

The only other positive finding in the histologic examination was the vacuolization of an occasional basophil cell of the pituitary gland. This is one of the changes found by Warren A. Bennett in the pituitaries of cortisone-treated patients.

The findings in the lungs are similar to those reported in the literature in deaths in status asthmaticus. However, in this case there is the additional factor of cortical



adrenal atrophy. It is well known from both clinical and experimental observations that administration of cortisone produces atrophy of the adrenal cortex. This atrophy has been shown to be reversible since there is no apparent destruction of cells, but rather a diminution in size due to a loss of lipid material. This is certainly the mechanism for the production of the adrenal atrophy in this case.

The question is, what rôle, if any, did the adrenal atrophy play in this patient's death? It is known that the effects of cortisone last for from six to eight hours. This patient had run out of cortisone in the early afternoon. She developed an acute asthmatic attack in the evening, six hours or more after having taken her last dose of cortisone. In moments of stress the demand on the adrenal is certainly increased. In the case of an atrophied adrenal this response would be decreased and probably insufficient to cope with the disturbed physiologic state. It is known that in a state of adrenal insufficiency, unless appropriate treatment is quickly introduced, a state of peripheral collapse rapidly develops and leads to death. This appears to be the explanation for death in this case. It is true that concrete proof is not available, but one cannot help but feel that in this case the adrenal insufficiency was "the straw that broke the camel's back."

**Clinical-Pathological Conference No. 15, Thursday, April 28. Case 1.** Pathologist: FERDINAND C. HELWIG, M. D., F.A.C.P., Kansas City, Missouri.

External examination of the body showed a well developed, fairly well nourished man of 65 years. The belly was distended. Otherwise, nothing of significance was observed.

Upon opening the chest, the pleural cavities contained no adhesions or significant increase in fluid. The lungs on section presented a confluent bronchopneumonia. The epicardium showed patches of grayish white, organizing, granulomatous appearing tissue on the surface. The heart was otherwise essentially negative.

The abdominal cavity held a considerable amount of yellowish turbid fluid, and plastered over both the parietal and visceral peritoneum were varying sized, irregular, elevated patches of whitish gray, granulomatous appearing exudate. These patches showed considerable vascular hyperemia about them. The liver and spleen were of normal size, but on section the latter showed small grayish white foci of granulomatous character scattered over the cut surface.

The left kidney was of normal size and grossly appeared negative. The right kidney was smaller than normal and showed scars in the cortex and a small, round, white, sharply defined, hyaline, hard tumor 1 cm. in diameter embedded in the parenchyma. All of the remaining abdominal, retroperitoneal and pelvic organs were not grossly altered.

The stomach was normal appearing and no induration or infiltration was found in the pyloric region. Unfortunately, no sections were taken from the pylorus for microscopic examination.

Histologic studies showed a confluent bronchopneumonia in the lungs, the exudate being largely of polynuclear neutrophils and fibrin. The pericardium showed classical tuberculous granulation tissue made up of both miliary and conglomerate tubercles. In the spleen, caseous tubercles were present in the pulp. The peritoneal exudate was similar to that of the pericardium, and the granulation tissue revealed acid fast organisms with Ziehl-Nielsen stains. The right kidney showed old scars with hyalinized glomeruli, atrophied tubules and thick walled vessels, and the small 1 cm. tumor was made up of cartilage cells. The bone marrow was, if anything, mildly aplastic, whereas the cellular components were essentially within normal range and distribution. No evidence of leukemic infiltration was found in any of the viscera.

*Discussion:* In an effort to explain some of the clinical findings, the history of "uremia" is thought provoking. The lesions in the right kidney would seem hardly adequate to explain this episode and, since a brain examination was not permitted, we must forego an answer.

The peripheral blood picture prior to administration of ACTH was that of an aleukemic leukemia with anemia, leukopenia and lymphocytic predominance with many primitive lymphocytes being present. The marrow was virtually replaced by lymphoblasts. Moreover, there was an infiltrative, filling defect in the pyloric end of the stomach. This latter finding was considered, by the clinicians who studied the patient, as being due to leukemic or lymphomatous infiltration, and it was for this that he was given external irradiation therapy.

In an attempt to reconstruct the pathogenesis in this case, several explanations might be given:

1. The ACTH therapy, due to its known action in protecting vascular endothelium and maintaining arteriolar tone with reduction of inflammatory response, reduced the patient's immunity to a latent tuberculous process with poor localization of the disease, which became generalized and produced a fatal outcome, and at the same time produced an involution of the leukemic process.

2. The ACTH therapy was purely incidental and, as has been repeatedly observed,<sup>1</sup> the tuberculous processes in some mysterious manner caused a disappearance of the clinical and pathologic findings of leukemia.

3. The patient did not have leukemia, and the blood and bone marrow findings were a peculiar leukemoid response which was reversed by the ACTH or the generalized tuberculosis<sup>2,3</sup> or perhaps both.

It would seem, from our findings, that these questions cannot be satisfactorily answered.

#### BIBLIOGRAPHY

1. Heinle, R. W. and Weir, D. R.: *Am. J. M. Sc.* 207: 450-453, 1944.
2. Gardner, F. H. and Mettier, S. R.: *Blood* 4: 767-775, 1949 (bibliography).
3. Lubitz, J.: *Ann. Int. Med.* 42: 951-953 April 1955.

#### Clinical-Pathological Conference No. 15, Thursday, April 28. Case 2. Pathologist: WILLIAM J. BECKFIELD, M.D., Philadelphia, Pennsylvania.

At autopsy multiple abscesses with yellow-gray thick fluid contents were noted in the peritoneum. One of these communicated with the sigmoid. The lungs, spleen and intestine appeared congested, the heart was dilated and flabby and petechiae were noted in the serous surfaces. The adrenals appeared depleted of lipid. These gross changes were attributed to the known severe illness with terminal circulatory collapse. More specific changes were noted in the liver and kidney. The liver weighed 1220 gm., its contour appeared normal but the surface and sectioned parenchyma were mottled green and tan. The liver felt flabby and showed small foci of softening. The gross diagnosis was subacute hepatitis. The kidneys appeared slightly swollen, soft and green-tan and were considered to represent a combination of cholemic nephrosis and serous inflammation.

Sections of the liver on microscopic examination show numerous irregular foci of degeneration of the parenchyma and leukocytic infiltration chiefly of mononuclear cells and in trichrome stain show early fibrosis. There is mild lymphoid infiltration in portal areas. The bile pigment and iron content of the liver are slightly increased. These changes fit very well with our discussors' suggestion of serum hepatitis. The lesion is the type seen in homologous serum jaundice rather than in a suppurative hepatitis or pyelophlebitis.

The other microscopic finding of interest, however, was not anticipated clinically or grossly. Throughout the tissues examined, but particularly in the lung, kidney and heart we found many small granulomatous lesions. The central portion of these contain large colonies of fungi, polymorphonuclear leukocytes, and macrophages and some multinucleated giant cells. The fungi have the morphologic characteristics of the genus *Candida* and although not precisely identified by culture probably are *Candida albicans* (*Monilia albicans*).

Thus we have a case of intra-abdominal pregnancy, delivered with necessity of blood transfusion. This was followed by peritonitis with abscess formation and particularly by a fecal fistula. Treatment included more blood transfusion and antibiotics.

The next phase was one of serum hepatitis from which the patient was recovering when she developed (again while receiving antibiotics) her severe febrile illness—disseminated moniliasis. This led to profound vascular collapse and death.

Admittedly this is a complicated story but it is a true one and illustrates several problems of particular interest. One of these requires only passing mention as it is unfortunately, common enough to be familiar to everyone. Blood transfusions certainly were necessary in the management of this patient, but also they introduced the virus which caused her liver disease.

Again we can not condemn all antibiotic therapy because it permitted the overgrowth of a fungus. But in the future I, at least, plan to include moniliasis in the differential diagnosis of "antibiotic resistant," apparently even antibiotic favored infections. The third problem in this case was one of cortisone effects—good versus bad. In the chart the interne seemed to do his best to find improvement after cortisone was started. But both experimental and clinical evidence indicates that the effective inhibition of macrophages by cortisone removes the patient's best natural defense against fungi—formation of discrete granulomata and fibrous scars.

#### Final Diagnosis:

- Intra-abdominal pregnancy, delivered.
- Suppurative peritonitis with fecal fistula.
- Subacute hepatitis—homologous serum jaundice.
- Disseminated fungus infection—moniliasis  
(probably *Candida albicans*)
- Circulatory collapse

#### Clinical-Pathological Conference No. 21, Friday, April 29. Case 1. Pathologist:

WILLIAM G. BERNHARD, M.D., F.A.C.P., Newark, N. J.

Postmortem examination of this patient revealed moderate pitting edema of both ankles and the hair distribution was suggestive of the male type. The heart was small in size, weighing 300 gm., and the ventricles contracted in systole. The lungs, liver, spleen, pancreas and gastrointestinal tract were normal. The right kidney weighed 80 gm., the left 110 gm. Both capsules were considerably adherent to the cortex, which on cut section appeared to be remarkably reduced in caliber. The left kidney contained a small cyst filled with clear fluid. Neither of the pelves was distended. Dependent drainage was apparently good. The bladder was empty but contained a thick mucoid pus which appeared to lie in pools in the mucosal folds. The mucosa was considerably congested and displayed several small bleeding points. Brain and pituitary gland appeared normal. The right adrenal weighed 15.5 gm., the left adrenal 11 gm. Both appeared essentially normal. The left adrenal contained a small cortical adenoma but otherwise was normal. Both lungs were crepitant and showed no evidence of pulmonary edema or congestion.

Microscopic examination: Section of the bladder showed the mucosa degenerated and replaced by hemorrhagic debris and inflammatory cells. Multiple sections of the kidneys showed marked distortion of the architecture. There was a marked increase

in interstitial fibrous connective tissue. In many areas this presented a moderately intense inflammatory infiltrate composed principally of lymphocytes and plasma cells. However, in one area near the pelvis this inflammatory reaction appeared to be of a suppurative type with the inflammatory cells being chiefly polymorphonuclear neutrophils and eosinophils. A few of the tubules showed evidence of active pyelonephritis, being filled with pus. In addition there were areas of frank abscess formation. Many of the glomeruli showed various stages of degeneration. A moderate number of normal appearing glomerular tufts showed concentric periglomerular fibrosis. The efferent arterioles showed marked hyaline thickening with consequent narrowing of the lumens. Some of these arterioles presented lumens that were almost completely obliterated. The arteries showed an increase of connective tissue in the intima, which appeared to be dense and acidophilic. There was some reduplication of the internal elastic membrane and hypertrophy of the media. The tubules showed two types of pathologic alteration. Some were markedly hypertrophic and appeared dilated. These were in the regions of the normal appearing glomeruli. Many appeared atrophic, cystic, distorted, being compressed by an increase of the interstitial fibrous connective tissue. On special stains using the Hotchkiss McManus periodic acid Schiff reagent the marked thickening of the basement membrane of the tubules was clearly illustrated. Rare tubules showed colloid casts within their lumens and were lined by atrophic flattened epithelium. These latter changes were more pronounced in the numerous scarred areas. The sections of the adrenal glands showed essentially normal architecture of the cortex and of the medulla. In one area there was a small circumscribed but not encapsulated cortical adenoma appearing architecturally in the zona reticularis.

Diagnosis: Chronic healed pyelonephritis with recurrent acute pyelonephritis and pyelitis.

*Discussion:* This case was presented because it was one of the 14 cases reported in the literature to date with a diagnosis of Kidney Disease Simulating Adrenal-Cortical Insufficiency, So-Called Salt Losing Nephritis, by Thorn. Reviewing the cases reported in the literature, it was felt that most of them were caused by chronic pyelonephritis or cystic disease of the kidney, although some were considered due to glomerular nephritis. However, in reviewing the papers and microscopic descriptions, almost all fit into the chronic pyelonephritis group although this condition is rare, but not as rare as one would expect as there are probably other cases which have not been reported and cases that are still living and properly treated. However, the important lesion in this case is the important disease pyelonephritis. In one series the incidence was 10.5% in 2,579 autopsies and Weiss and Parker state that pyelonephritis is responsible for 15 to 20% of malignant hypertension and is much commoner than chronic glomerulonephritis. Staemmler states that of all chronic renal disease associated with contracted kidney only nephrosclerosis is more common than pyelonephritis. Saphir in an excellent review recommends a closer scrutiny of histologic diagnosis and he was able to show in a period of 15 years that the diagnosis of chronic pyelonephritis increased markedly and that chronic glomerular nephritis and nephrosclerosis decreased on a histologic basis. Pyelonephritis is a disease of importance in obstetrics, pediatrics, internal medicine and surgery. It is one disease which can be treated effectively in its incipient stage if recognized. Acute pyelonephritis is the most frequent disease of the kidney. Pyelitis is a misnomer, always associated with pyelonephritis. Pyuria of renal origin is usually associated with infection and inflammation of both the parenchyma and the pelvis. Fortunately, acute pyelonephritis heals in the majority of instances. It is an important disease as a cause of hypertension, as so beautifully illustrated in Weiss and Parker's classic review in 1939. In this article, Weiss and Parker concluded that the advancing arterial lesions caused by tissue inflammation and pyelonephritis are responsible for the hypertension. In the case presented today there was no hypertension, probably

due to the selective tubular impairment, as it is known that moderately severe arteriolar lesions are present in cases with pyelonephritis without hypertension. The microscopic picture of the case presented allows the speculation that the selective tubular impairment sometimes observed in patients with chronic pyelonephritis might be more characteristic of the healed or fibrotic stage than it is of the chronic inflammatory stage in which the reduction of blood flow with equal impairment of glomerular and tubular function is more characteristic. The treatment of pyelonephritis by antibiotics must be prolonged and varied, followed by frequent cultures and sensitivity tests. In retrospect, much time might have been saved in coming to a definite diagnosis in this case had a renal or kidney aspiration biopsy been done.

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**Clinical-Pathological Conference No. 21, Friday, April 29. Case 2.** Pathologist:  
ERNEST E. AEGERTER, M.D., Philadelphia, Pennsylvania.

At necropsy, gross and microscopic changes in the various systems were negligible. A clinical diagnosis of pseudohyperparathyroidism had been made so a special search for the parathyroid glands was made. None was found grossly, and pseudo-serial sections of blocks of tissue from normal parathyroid sites revealed none. It must be assumed on this basis that the symptoms of hypoparathyroidism were due to an actual gland deficiency. Unquestionably this patient had some parathyroid tissue, but it must have been scattered in aggregates of a few cells each and consequently, undemonstrable. I believe this to be a case of primary hypoparathyroidism. It was presented to point out the common diagnostic error of mistaking chronic tetany for epilepsy and the danger of using calcium and digitalis together in such a patient.

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**Clinical-Pathological Conference No. 28, Friday, April 29. Case 1.** Pathologist:  
W. A. D. ANDERSON, M.D., F.A.C.P., Coral Gables, Florida.

The case was one of cor pulmonale with cardiac failure. The basis of the cor pulmonale was a cystic disease of the lung with widespread pulmonary fibrosis, emphysema, and pulmonary arteriosclerosis. An unusual feature of the pulmonary change was a varying degree of squamous metaplasia of the linings of some of the cystic and bronchiectatic cavities. In at least one area this metaplastic epithelium appeared to have undergone malignant change, and had the proliferative and cytologic characteristics of a squamous cell carcinoma. Although this neoplasm exhibited local infiltrative activity, no distant metastases were found.

Except for enlargement, the heart showed no abnormality. It weighed 550 grams, the right ventricle and atrium showing a predominant degree of hypertrophy and dilatation. Circulatory congestion was prominent in other organs and tissues, which otherwise showed only minor pathologic changes incidental to the main disease process.

The case illustrated the clinical features of cor pulmonale with the unusual basis of cystic disease of the lung, and also the rare occurrence of squamous metaplasia in the lung undergoing malignant transformation.

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**Clinical-Pathological Conference No. 28, Friday, April 29. Case 2.** Pathologist:  
PETER A. HERBUT, M.D., F.A.C.P., Philadelphia, Pennsylvania.

1. Idiopathic calcium oxalate nephrocalcinosis.
2. Chronic pyelonephritis.
3. Focal osteosclerosis and mild fibrosis of the bone marrow.
4. Calcium oxalate crystals in the bone marrow. The cause of death was uremia.

## NEW LIFE MEMBERS

We are pleased to announce that seven Fellows of the College, since the publication of the last issue of the ANNALS, have taken advantage of the "Membership Without Dues" plan. They are:

Dr. Seymour L. Cole, Beverly Hills, Calif.  
 Dr. William Anthony Davis, Glen Ridge, N. J.  
 Dr. Silas McAfee Evans, Milwaukee, Wis.  
 Dr. Howard A. Klein, Detroit, Mich.  
 Dr. Howard K. Petry, Harrisburg, Pa.  
 Dr. Irvin Sussman, Bridgeton, N. J.  
 Dr. Samuel E. Warshauer, Wilmington, N. C.

## GIFTS TO COLLEGE LIBRARY OF PUBLICATIONS BY MEMBERS

The College is grateful for the receipt of the following publications:

John A. Schindler, M.D., F.A.C.P., Monroe, Wis.—*How to Live 365 Days a Year*.  
 Arthur M. Master, M.D., F.A.C.P., New York City—*Cardiac Emergencies and Heart Failure* (2nd Edition), with Marvin Moser, M.D., and Harry L. Jaffee, M.D.

The Committee on Credentials of The American College of Physicians will hold its next regular meeting on Nov. 11-12, 1955. Proposal forms to be acted on at that time must be on file at the College Headquarters sixty days in advance of the meeting.

## 1955 A.C.P. DIRECTORY

The 1955 edition of the American College of Physicians Directory is in the process of revision and re-publication. The editor has been handicapped by the delay of members in returning their revised data forms. September 15 is the deadline for any further corrections or additions.

The pre-publication price of the Directory to members of the College, \$6.00; to others, \$7.00; after September 15, \$7.00 to all. Order blanks may be obtained from the College Headquarters, 4200 Pine St., Philadelphia 4, Pa.

## COMING REGIONAL MEETINGS, A.C.P.

NORTH DAKOTA, Jamestown, Sept. 10, 1955; Robert B. Radl, M.D., F.A.C.P., Bismarck, Governor; Wesley W. Spink, M.D., F.A.C.P., Minneapolis, Minn., Special Guest.  
 MONTANA-WYOMING, Billings, Mont., Oct. 7-8, 1955; Harold W. Gregg, M.D., F.A.C.P., Butte, Governor; George F. Strong, M.D., F.A.C.P., Vancouver, B.C., and E. R. Loveland, Executive Secretary, Philadelphia, Special Guests.  
 SOUTHEASTERN (Alabama, Florida, Georgia, South Carolina, Cuba), Charleston, S. C., Oct. 7-8, 1955; Robert Wilson, M.D., Charleston, local Governor; Ralph R. Coleman, M.D., F.A.C.P., Charleston, Chairman; Edward L. Bortz, M.D., F.A.C.P., Philadelphia, Special Guest.  
 WESTERN NEW YORK, Buffalo, Oct. 14, 1955; John H. Talbott, M.D., F.A.C.P., Buffalo, Governor.



MIDWEST (Illinois, Indiana, Iowa, Minnesota, Wisconsin), Madison, Wis., Oct. 15, 1955; Frederick W. Madison, M.D., F.A.C.P., Milwaukee, local Governor.

LOUISIANA-MISSISSIPPI, Shreveport, La., Oct. 1955; M. D. Hargrove, M.D., F.A.C.P., Shreveport, Governor for Louisiana; Laurance J. Clark, M.D., F.A.C.P., Vicksburg, Governor for Mississippi.

KENTUCKY-TENNESSEE, Louisville, Ky., Nov. 5, 1955; Sam A. Overstreet, M.D., F.A.C.P., Governor for Kentucky; Rudolph H. Kampmeier, M.D., F.A.C.P., Governor for Tennessee.

NEW JERSEY, Newark, Nov. 9, 1955; Edward C. Klein, Jr., M.D., F.A.C.P., Newark, Governor; Thomas J. White, M.D., F.A.C.P., Jersey City, Chairman; George F. Strong, M.D., F.A.C.P., Vancouver, B.C., Special Guest.

ARKANSAS-OKLAHOMA, Fort Smith, Ark., Dec. 3, 1955; A. A. Blair, M.D., F.A.C.P., Fort Smith, Governor for Arkansas; Bert F. Keltz, M.D., F.A.C.P., Oklahoma City, Governor for Oklahoma.

NORTH CAROLINA, Winston-Salem, Dec. 8, 1955; Elbert Persons, M.D., F.A.C.P., Durham, Governor; E. R. Loveland, Executive Secretary, Philadelphia, Special Guest.

Additional to the above, Regional Meetings are in the planning stage for Eastern Pennsylvania at Philadelphia during January, 1956; Arizona at Phoenix during February, 1956; Hawaii at Honolulu during March or April, 1956; Kansas at Kansas City during March (23rd), 1956; Midwest at Minneapolis, Oct. 27, 1956.

Programs for all Regional Meetings are printed and distributed by the Executive Offices of the College about one month in advance of the meeting. The distribution of programs is made to all Fellows and Associates covered by the territory, to all Officers, Regents and Governors of the College, to all non-members on the program, and to others outside of the territory upon request.

#### LIFE INSURANCE MEDICAL RESEARCH FUND

##### Research Fellowships and Grants

Applications for awards available July 1, 1956, will be received by the Life Insurance Medical Research Fund as follows: (1) Postdoctoral research fellowships, until October 15, 1955. Preference is given to those who wish to work on cardiovascular function and disease or related fundamental problems. Minimum stipend \$3,600, with allowances for dependents and necessary travel. (2) Grants to institutions in aid of research on cardiovascular problems, until November 1, 1955. Support is available for physiological, biochemical, and other basic work broadly related to cardiovascular problems as well as for clinical research in this field. Predoctoral fellowships will not be offered by the Fund this year. Further information and application forms may be obtained from the Scientific Director, Life Insurance Medical Research Fund, 345 East 46th Street, New York 17, N. Y.

#### COMING EVENTS

The Minnesota Symposium on Arteriosclerosis will be held in the Mayo Memorial, University of Minnesota Medical School in Minneapolis Sept. 7-9. This Symposium is sponsored by the University of Minnesota and the Minnesota Heart Association. Five General Sessions and a half day of clinic and laboratory visits will be devoted to: "The Challenger of Arteriosclerosis," "Atherosclerosis," "Peripheral and Cerebral Arteriosclerosis," "The Internist and Some Tools," and "The Surgical Treatment of Arteriosclerosis." The speakers from outside Minnesota will include the following Members of the College: David P. Barr, M.D., M.A.C.P., New York City; A. W. Duryee, M.D., F.A.C.P., New York City; Elliott V. Newman,

M.D., F.A.C.P., New York City; and Paul Dudley White, M.D., M.A.C.P., Boston. Advance registration is desirable. For information address Dr. Robert B. Howard, Director, Mayo Memorial, Minneapolis 14, Minn.

Beginning Sept. 26, the Post-Graduate Medical School of New York University-Bellevue Medical Center, New York City, will conduct an eight week comprehensive course in Industrial Medicine. Among the subjects to be offered are: Organization, Administration and Economics of an Industrial Medical Department; The Practice of Preventive and Constructive Medicine in Industry; The Clinical Aspects of Occupational Diseases; Industrial Injuries and the Elements of Safety Programs; and Toxicology and Industrial Hygiene for the Physician. Those interested may apply to the Dean, NYU Post-Graduate Medical School, New York 16, N. Y. The tuition for this Course is \$250.00.

The twenty-third annual assembly of the Omaha Mid-West Clinical Society will be held Oct. 24-27, 1955, at the Paxton Hotel, Omaha, Nebr.

American Congress of Physical Medicine and Rehabilitation, Hotel Statler, Detroit, Mich., Aug. 28-Sept. 2.

The Medical Society of Virginia, Hotel Jefferson, Richmond, Va., Oct. 16-19.

Southern Medical Association, Houston, Texas, Nov. 14-17.

American Association of Blood Banks, Palmer House, Chicago, Ill., Nov. 19-21.

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Of interest to the College members are the following foreign meetings:

The World Medical Association, in connection with its Ninth General Assembly in Vienna, Austria, will conduct on Friday, Sept. 23, the Sixth Annual Medical Journalism Meeting. "The Problems of Teutonic Medical Publications," will be the topic of the day. The program will be sent on request. Address the World Medical Association, 345 E. 46th St., New York 17, N. Y.

Sept. 1-4—International Medical Congress, Verona, Italy. For information write: c/o Offices of the International Verona Fair, Piazza Bra., Verona, Italy.

Sept. 5-8—International Vitamin E Congress, Cini Foundation, Island of San Giorgio Maggiore, Venice, Italy. Prof. Emilio Ravertino, via Pietro Verri 4, Milano, Italy, Secretary.

Sept. 12-17—International Congress of Neuropathology, London, England. Dr. W. H. McMenemey, Maida Vale Hospital for Nervous Diseases, London, W.9, England, Secretary.

Sept. 13-17—Neuroradiologic Symposium, London, England. Dr. R. D. Hoare, National Hospital, Queen Square, London, W.C.1, England, Secretary.

Nov. 6-13—International Congress of Allergology, Rio de Janeiro, Brazil, S.A. Dr. Bernard N. Halpern, 197 Boulevard St. Germain, Paris 7, France, Secretary General.

Nov. 18-26—Venezuelan Congress of Medical Sciences, Caracas, Venezuela, S.A. Dr. A. L. Briceno Rossi, Apartado 4412, Ofic. del Este, Caracas, Venezuela, S.A., Secretary General.

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#### CERTIFICATION OF NON-PHYSICIANS

On November 14, 1954, the Board of Regents of the American College of Physicians adopted a resolution to refer back to the Council on Medical Education and Hospitals and to the Advisory Board of the Medical Specialties, with a favorable endorsement, a proposal concerning the establishment of certifying boards for scientists not having M.D. degrees, but possibly Ph.D. degrees, such as microbiologists, clinical pathologists, and others.

Many dissenting opinions have been received, especially from clinical pathologists. On April 27, 1955, the Board of Regents determined to investigate the matter further through a special committee, with directions for a report to the Regents at its next meeting in November, 1955. Meantime, this matter is held in abeyance.

Now that the ANNALS OF INTERNAL MEDICINE is publishing an abstract, written in Interlingua, of the leading articles, it is interesting to note that our own Dr. Thomas Durant, F.A.C.P., Philadelphia, was instrumental in its use at the Second World Conference of Cardiology held in Washington, D. C., during the Autumn of 1954. Temple University School of Medicine, Philadelphia, will offer a short introductory course in Interlingua to its seniors in the Fall of 1955.

The Medical Film Guild of New York offers a new and revolutionary plan for a regularly scheduled program of Medical Films to be shown at hospital staff conferences, local medical societies, meetings, and medical schools.

This plan provides for the booking of one film for each of ten months in a year, showing dates are at the discretion of the subscriber. The rental fee for "Films-of-the-Month" amounts to approximately two-thirds of the single rental cost.

The plan features only approved films. That is, professional medical motion pictures in color and sound which have been planned and prepared with the cooperation of eminent medical centers and universities and National Medical Associations. For example: Georgetown University Medical Center and the American College of Physicians are participating in the production of "Pitfalls in Management of Refractory Heart Failure." Tulane University with the cooperation of the Universities of California, Iowa, Toronto, New York, and Boston, is working on the production of a film to be known as "Ocular Bacteriology."

A total audience of more than 100,000 has been served by the Guild in the past year. The inception of the "Medical Film-of-the-Month" marks the Medical Film Guild's 25th Anniversary as producers and distributors of "Medical Films That Teach."

Dr. Benjamin M. Kagan, F.A.C.P., heretofore Professor of Pediatrics at Northwestern University Medical School and Chairman of the Department of Pediatrics and Director of the Department of Pediatric Research at the Michael Reese Hospital, Chicago, has been appointed to the newly created position of Director of the Department of Pediatrics at the Cedars of Lebanon Hospital, Los Angeles, Calif., with duties beginning on September 1, 1955.

Dr. Charles L. Brown, F.A.C.P., for the past several years Dean of Hahnemann Medical College of Philadelphia, was tendered a testimonial dinner by the President and Medical Board of Deborah Sanatorium and Hospital, Browns Mills, N. J., at the Drake Hotel, Philadelphia, on May 26, 1955, the dinner being in the form of a farewell party.

A few days earlier the staff of Hahnemann Medical College tendered Dr. Brown, at the College, a "This is Your Life" party. Dr. Brown's daughter and son-in-law were flown from Germany for the occasion. Dr. Cyrus C. Sturgis, Professor of Medicine at the University of Michigan and immediate past President of the American College of Physicians, with Mrs. Sturgis, were brought to Philadelphia, as were many other important personages connected with Dr. Brown's previous career.

On June 1, 1955, Dr. Brown assumed the duties of Dean of the new Seton Hall Medical School being established in connection with the Jersey City Medical Center.

Major General Dan C. Ogle, F.A.C.P., the Surgeon General of the U. S. Air Force, was the recipient of two high civilian awards during the month of June. The first was presented to him at the time of the convocation ceremony of the American College of Chest Physicians at Atlantic City on June 4. At that time he was presented with an Honorary Fellowship in the College. On June 12, at Eureka, Ill., during the centennial commencement of Eureka College, General Ogle was presented a centennial citation as being representative of outstanding achievement in his particular field. General Ogle is a graduate of Eureka College prior to his receiving an M.D. degree from the University of Illinois.

A Fellow of the College, Samuel Weiss, M.D., New York City, Editor-in-Chief of *The American Journal of Gastroenterology*, was signally honored on the occasion of his 70th birthday. He was presented with an illuminated plaque containing a set of resolutions recognizing Dr. Weiss' 70th birthday and his accomplishments and achievements in medicine, particularly in the American College of Gastroenterology.

Brigadier General Otis O. Benson, Jr., F.A.C.P., a Flight Surgeon with the U. S. Air Force Medical Service, received an honorary degree of Doctor of Science from the faculty of Montana State University during its 1955 commencement exercises. This distinction was accorded to General Benson in recognition of his being one of the country's leaders in the advancement of aeronautics through medical research.

A certificate of meritorious service was recently presented by the American Goiter Association to Dr. James H. Means, F.A.C.P., Jackson Professor Emeritus of Clinical Medicine of Harvard Medical School of Boston. The presentation took place at the annual meeting in Oklahoma City.

Dr. Paul Brindley, F.A.C.P., who died in November, 1954, was given posthumously the Caldwell (Scientific) award. This award is given annually to honor a distinguished medical scientist of Texas whose contributions to medical science in the State warrant commendation. A scroll and gold medal were presented by Dr. Caldwell's widow, Dr. Janet A. Caldwell, to Mrs. Brindley in the name of the doctor.

The National Society for Medical Research recently honored a Master of the College, Dr. Anton J. Carlson, Frank P. Hixon Distinguished Service Professor Emeritus at the University of Chicago, by electing him Honorary President for life. Dr. Carlson has served as President of the National Society for Medical Research since its inception in 1946. The active leadership has now been turned over to another Fellow of the College, Dr. Lester R. Dragstedt, Chicago.

For the 15th consecutive time Dr. Herbert L. Bryans, F.A.C.P., Pensacola, was recently elected President of the Florida State Board of Health.

The Missouri State Medical Association has as its newly elected President, Dr. Victor B. Buhler, F.A.C.P., Kansas City.

The U. S. Air Force has announced the appointment of Dr. J. Lamar Callaway, F.A.C.P., Duke University School of Medicine, Durham, N. C., as chief consultant on dermatological problems for the U. S. Air Force Bases in this country and abroad.

Major General Silas B. Hays, F.A.C.P., Army Medical Corps, was sworn in as the thirtieth Surgeon General of the Army, June 1 in Washington. The ceremony took place in the office conference room and was crowded with visiting dignitaries from other government agencies and private organizations as well. After taking the oath, General Hays said that he wanted to make an additional pledge, namely, "to continue the high professional standards which the organization had achieved under General Armstrong."

The University of Pennsylvania, Philadelphia, recently appointed Dr. Edward L. Turner, F.A.C.P., Chicago, Secretary of the A.M.A. Council on Medical Education and Hospitals, to the University's Board of Medical Education and Research, and shortly thereafter elected him as an Associate Trustee of the University.

The American Board of Internal Medicine has appointed Dr. J. Murray Kinsman, F.A.C.P., Dean of the University of Louisville School of Medicine, as a member of the Subspecialty Board on Cardiovascular Diseases. Dr. Kinsman is a Regent of the College.

Frank P. Pignataro, M.D., F.A.C.P., Red Bank, N. J., was elected President, for the year 1955-56, at the recent annual meeting of the New Jersey District Branch of the American Psychiatric Association.

Dr. Charles M. Caravati, F.A.C.P., College Governor for Virginia, was one of the featured speakers at the 88th annual meeting of the West Virginia State Medical Association at the Greenbrier, White Sulphur Springs, in August.

The Arkansas State Medical Society held its 79th annual session at Hot Springs, May 30-June 1. Among the out-of-town speakers were Burrill B. Crohn, M.D., F.A.C.P., New York City, who spoke on "Regional Ileitis," and Stewart Wolf, M.D., F.A.C.P., Oklahoma City, who read a paper on "Headache Mechanisms."

Three Fellows of the College, Dr. Herrman L. Blumgart, Boston; Dr. William A. Sodeman, Colombia, Mo.; and Dr. Charles E. Kossman, New York City, were speakers at the Wisconsin Heart Association at its annual meeting on June 4 in Milwaukee.

Edward P. Cawley, M.D., F.A.C.P., Charlottesville, Va., was a speaker at the Society for Investigative Dermatology at its 16th annual meeting in Atlantic City, N. J., June 4-5.

C. Wilmer Wirts, M.D., F.A.C.P., Philadelphia, and Paul L. Shallenberger, M.D., F.A.C.P., Sayre, Pa., spoke on the subject of "Gastric Biopsy" at the recent meeting of the American Gastroscopic Society in Atlantic City, N. J.

Dr. Dwight L. Wilbur, F.A.C.P., San Francisco, a Regent of the College, presided as President at the 56th annual meeting of the American Gastroenterological Association at Atlantic City, N. J., June 3-4. Dr. Thomas P. Almy, F.A.C.P., New York City, was one of the speakers at the closing session.

The Medical Section of the American Life Convention recently held its 43rd annual meeting in Hot Springs, Va. Dr. Irvine H. Page, F.A.C.P., of the Cleveland

Clinic, read an interesting paper on "Effect of Anti-Hypertensive Drugs on Life Expectancy."

The annual meeting of the American Rheumatism Association was held June 3-4, at Atlantic City, N. J., under the Presidency of Dr. Edward W. Boland, F.A.C.P., Los Angeles. Three Fellows of the College were on the program as speakers and members of panel discussions: Drs. Joseph J. Bunim, Bethesda, Md.; Currier McEwen, and Russell L. Cecil, New York City.

James H. Stygall, M.D., F.A.C.P., Indianapolis, served as co-chairman of the Scientific Sessions of the 21st annual meeting of the American College of Chest Physicians at Atlantic City, N. J., June 2-5. Dr. Burgess L. Gordon, F.A.C.P., Philadelphia, and Dr. Alvis E. Greer, F.A.C.P., Houston, Tex., were speakers at two of the Sessions.

Dr. Laurance W. Kinsell, F.A.C.P., Oakland, Calif., spoke at the recent annual meeting of the American Diabetes Association in Atlantic City, N. J. This was a joint meeting with The Endocrine Society. Dr. Henry B. Mulholland, F.A.C.P., Charlottesville, Va., was the President and the banquet speaker. Also appearing on the program were Drs. Lesfer J. Palmer, F.A.C.P., Seattle, Wash., Edgar A. Haunz (Associate), Grand Forks, N. D., and Randolph P. Pillow (Associate), Seattle, Wash.

Guest speakers at a special conference on the causes, diagnosis and treatment of vascular headaches, held at the New England Medical Center in May, were Dr. John A. Graham, F.A.C.P., Cambridge, Mass., and Dr. Baynard T. Horton, F.A.C.P., Rochester, Minn. Dr. George W. Dana (Associate), Boston, acted as chairman for the conference.

A film presenting the views of the speakers is being prepared for later showing to medical groups throughout the country. Physicians interested in viewing the film should contact Film Division, Organon Inc., Orange, N. J.

There is an interesting exhibit in New Orleans on display at the Matas Medical Library of Tulane University of Louisiana School of Medicine showing more than 100 years of medicine. This exhibit commemorates the 100th anniversary of the Louisiana State Board of Health, and should be of interest to any physicians who may be traveling in that vicinity this year.

The May, 1955, issue of THE PHAROS of Alpha Omega Alpha contains the following articles by members of the College: "The Gentle Doctor," James J. Waring, M.D., M.A.C.P., Denver, Colo.; "The Challenge of Longer Life," Edward L. Bortz, M.D., F.A.C.P., Philadelphia.

Dr. Louis Tuft, F.A.C.P., Philadelphia, Clinical Professor of Medicine and Chief of the Applied Immunology Clinic of Temple University Medical Center, addressed the British Allergy Association meeting recently at King's College Hospital, London, on the subject, "Critical Evaluation of Skin Tests in the Diagnosis of Allergic Diseases." From England, Dr. Tuft flew to Italy and spoke at the University of Florence.

Dr. Joseph D. McCarthy, F.A.C.P., Omaha, Nebr., is a member of the Special Committee of the American Medical Association, whose purpose it is to meet with



labor and management in a joint effort to solve the medical problems of working people.

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Dr. George W. Dana (Associate), Associate Dean of the Johns Hopkins University School of Medicine, and Director of the Medical Care Clinic of the Johns Hopkins Hospital, Baltimore, has transferred his activities to Boston, where he will be Medical Director of the Bingham Associates Program, based on the New England Center Hospital, a unit of Tufts-New England Medical Center.

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Comdr. John W. Albrightain, (MC), USN., (Associate), Chief of the Dermatology and Syphilology Service, Naval Hospital, Bethesda, Md., represented the Surgeon General of the Navy at the annual convention of the Society for Investigative Dermatology at Atlantic City, N. J., June 4-5.

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The new Chief of the Division of Health of the Bureau of Mines is Dr. Robert H. Flinn, F.A.C.P., of the District of Columbia. Dr. Flinn assumed his duties in May.

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The American Heart Association, Inc., 44 E. 23rd St., New York 10, N. Y., has for distribution a new manual, "*Standards for General Convalescent Homes Caring for Cardiac Children.*" This manual provides a check list of the services, facilities and personnel required in convalescent homes to meet the special needs of children with rheumatic fever or congenital heart defects.

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Dr. Frank J. Holroyd, F.A.C.P., Princeton, W. Va., served as a member of the Reference Committee on Insurance and Medical Services of the A.M.A. at the 1955 annual meeting of that organization in Atlantic City, N. J.

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Under the general guidance of the Cancer Chemotherapy National Committee, a national voluntary program of coöperative research and development to find and produce effective drugs for the treatment of cancer has been organized. Many of the country's leading organizations and Government agencies in the field of medical science will coöperate in this undertaking. The Committee will define the scope of the program, develop general policies, assist in obtaining financial support for the work, coördinate the activities of the sponsoring organizations, and observe the rate of progress of the entire effort. Dr. C. P. Rhoads, F.A.C.P., New York City, is a member of this Committee, and Dr. William Feirer, F.A.C.P., New York City, is a member of a Special Advisory Group for liaison with the pharmaceutical and chemical industries.

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Dr. Ryle A. Radke, Sr., F.A.C.P., heretofore Colonel in the Medical Corps of the U. S. Army on service in Japan, has retired as of April 30, 1955, and has entered in private practice of Internal Medicine in partnership with his brother, Dr. Albert W. Radke, at 3202 Colby Ave., Everett, Wash. Dr. Radke's last assignment in the Army was that of Deputy Chief of the Department of Medicine at Fitzsimons Army Hospital, Denver, Colo.

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Dr. Paul R. Wilner, F.A.C.P., Washington, D. C., has been appointed a member of the National Prescription Advisory Committee. This Committee met in June and considered revision of the present standards for oral prescriptions of narcotics.

Rear Admiral Bartholomew W. Hogan, (MC), USN, F.A.C.P., the Surgeon General of the Navy, held a symposium with high ranking medical and dental officers of the Navy and the Naval Reserve at the National Naval Medical Center, Bethesda, Md., on June 1-3. The feature of this symposium was a series of panels and round table discussions that provided opportunity for the conferees to discuss with each other and with representatives of the Bureau of Medicine and Surgery their views, problems and possible solutions. Another Fellow of the College, Rear Admiral I. L. V. Norman, (MC), USN, also took part in the symposium, leading the discussion on "Hospitalization, Care of Dependents, OPD's Industrial Medicine, and Use of Civilian Physicians."

Dr. William S. Collens (Associate), Brooklyn, has been appointed Clinical Assistant Professor of Medicine at the State University of New York College of Medicine at New York City, Brooklyn.

Clarence B. Whims, M.D., F.A.C.P., Atlantic City, N. J., was the General Chairman for the American Rheumatism Association, which recently held its annual meeting at the Dennis Hotel in that City.

#### ANNOUNCEMENT REGARDING GRADUATE MEDICAL TRAINING IN NEUROLOGY AND OPHTHALMOLOGY

Graduate medical training grants of \$126,000 have been awarded to the Graduate School of Medicine of the University of Pennsylvania for a two year period by the National Institute of Neurological Diseases and Blindness to initiate a unique program of training teachers and investigators in the fields of Neurology and Ophthalmology. Dr. Julius H. Comroe, Jr., F.A.C.P., Professor of Physiology and Pharmacology, will be the program director.

The new course, to begin in the fall of 1955, will be the first of its kind in this country. It will be designed for neurologists and ophthalmologists who have decided to enter or continue a full-time academic career in teaching and research in these specialties. Prospective candidates must either be certified by the American Board of Neurology or the American Board of Ophthalmology or must have all or most of the requirements for Board certification. Preference will be given to men who have been selected by their own medical school faculties for advanced training with the understanding that after the academic year at the Graduate School of Medicine they will return to their own departments to do full time teaching and investigative work as a career. Probably not more than five neurologists and five ophthalmologists will be accepted during the first year; it is hoped that the majority of these will be able to obtain partial fellowship support during the training period. One or two internists or surgeons may be accepted during the first year in order to determine the effectiveness of the new program in training medical teachers and investigators in general.

An important part of this new course will be instruction in the art and technique of teaching. This will be accomplished largely by practical work. Initially, the group technique will be utilized in which each member of a small group is in turn the lecturer while the remainder of the group serves as a critical audience. Each lecture will be recorded so that the lecturer will have the benefit of both the playback and audience reaction (see J. Medical Education 29: 39, 1954). Recordings will be kept and compared with later performances in order to gauge progress. Later, the "students" will be given active teaching responsibilities, under supervision. Since teaching involves more than lecturing to large groups, there will also be considerable practice in conference, seminar and ward round types of teaching. No

attempt will be made to achieve uniformity in teaching; the emphasis will be upon improvement in those teaching techniques best suited to the personal attributes of each physician. In addition, attention will be paid to the use of visual aids, the proper design of examinations and appropriate faculty-student relationships. Special seminars on medical writing and library utilization will be given. The men will also be given broad training in the basic medical sciences of physiology, pharmacology, biochemistry, anatomy, pathology and microbiology, with particular emphasis on their relation to clinical problems.

Another feature of the course will be a training program designed to provide a good scientific background for medical research. The Faculty realizes full well that it cannot create investigators by didactic courses. However, it believes that it can provide an opportunity for advanced learning that would be very difficult to obtain through existing means. Among the new courses to be created especially for this group are:

1. Mathematics for physicians engaged in medical research.
2. Statistics and the design of experiments.
3. Recent advances in electronics, chemistry and physics.
4. Techniques of investigation and their critical analysis.
5. Seminars on critical evaluation of medical literature.
6. Philosophy of research.

Since many of the trainees may eventually become departmental chairmen, special seminars will also be given on medical administration (including budgeting, personnel selection, hospital administration and voluntary health plans).

These courses will be given by outstanding teachers, clinicians, scientists, editors and educators, many of whom will be from universities outside of the Philadelphia area.

Although it is anticipated that "students" in this course will already be well qualified clinically, courses in the present program of the Graduate School of Medicine may be taken by the group as elective courses. In addition, an opportunity will be offered for investigative work. The course work, coupled with research, will be acceptable as credit for the degree of Doctor of Science (Med.).

Address inquiries to: J. H. Comroe, Jr., M.D.  
Graduate School of Medicine  
University of Pennsylvania  
Philadelphia 4, Pennsylvania

OBITUARIES

DR. SAMUEL J. COHEN

Dr. Samuel James Cohen, a Fellow of the American College of Physicians, of Brooklyn, N. Y., died on Jan. 30, 1955, of arteriosclerotic heart disease.

Dr. Cohen was born in Russia on Dec. 17, 1888. He received the degree of Ph.G. from the Brooklyn College of Pharmacy in 1910 and the degree of Doctor of Medicine from the Long Island College Hospital in 1917. He served as intern in the Jewish Hospital from 1917-19, Assistant Pathologist, 1920-28, Assistant Physician, 1922-26, Associate Physician, 1926-46, and as Associate Pathologist, 1928-32. He later became Associate Attending Physician, Attending Physician and Chief of the Medical Clinic Outpatient Department. Dr. Cohen served as Instructor in Medicine in the Long Island College of Medicine, 1928-37, and Attending Physician at the Jewish Sanitarium and Hospital for Chronic Diseases from 1945-55. He was a member of the Medical Society of the County of Kings, Medical Society of the State of New York, and the American Medical Association. He was a Diplomate of the American Board of Internal Medicine. He became a Fellow of the American College of Physicians in 1945.

His confreres and patients note with sincere regret his loss at this time.

IRVING S. WRIGHT, M.D., F.A.C.P.,

Governor for Eastern New York

DR. ARTHUR W. DURYEA

Dr. Arthur Warren Duryea, F.A.C.P., died in Palm Springs, Calif., on Jan. 14, 1955.

Dr. Duryea was born in Roxbury, Mass., on Feb. 14, 1896. His college education commenced at Brown University but was interrupted by two years of service in the Navy, 1917-19. Upon discharge, he continued his education at Dartmouth (where he was a member of Phi Beta Kappa), receiving a B.S. degree in 1921. He received his M.D. degree in 1923 from Columbia University College of Physicians and Surgeons. Dr. Duryea continued his graduate studies and residencies, successively, at Bellevue Hospital, New York City; Trudeau Sanatorium; and Samuel Mahelom Memorial Hospital, Kealia, Kauai, T. H., until 1927. He then commenced private practice in Honolulu, in which he continued until 1947 when he returned to the continental United States and reentered private practice in California.

On Jan. 26, 1949, Dr. Duryea accepted appointment in the Department of Medicine and Surgery, Veterans Administration, and served successively in the following assignments: Chief of the Medical Service, VA Hospital, Alexandria, La.; Area Section Chief in Medicine, VA Medical Area, St. Louis; and in the Central Office of the Veterans Administration, Washington, D. C. He retired on March 17, 1954, and made his home in Palm Springs until the time of his death.

During his period of practice in Hawaii, Dr. Duryea was a participant in many professional and civic activities. At various times he served as Acting Territorial Health Officer, Assistant Medical Director of the Hawaii Sugar Planters Association Labor Bureau; member of the Board of Directors, Territorial Tuberculosis Association; member, Hawaiian Territorial Board of Medical Examiners; Attending Physician at Queen's, St. Francis, and Kapiolani Children's Hospitals in Honolulu. Dr. Duryea was a Fellow of the American College of Chest Physicians and had been a Fellow of the American College of Physicians since 1936. He was certified by the American Board of Internal Medicine in 1937.

An extremely able internist and an excellent administrator, Dr. Duryea led a very full life during his medical career. He will be greatly missed by a host of colleagues and friends.

WILLIAM S. MIDDLETON, M.D., M.A.C.P.,  
Chief Medical Director,  
Governor for the Veterans Administration

#### DR. A. MORRIS GINSBERG

Dr. A. Morris Ginsberg, F.A.C.P., age 59, Clinical Professor of Medicine at the University of Kansas School of Medicine and Chief of the Medical Service of the Menorah Hospital Medical Center and Kansas City General Hospital, died Nov. 12, 1954, at the Menorah Hospital of acute myocardial infarction.

Dr. Ginsberg was born in Kansas City, Mo., Jan. 1, 1895, son of Robert and Bessie White Ginsberg. He graduated from the University of Missouri in 1918 and received his M.D. degree in 1920 from the University of Pennsylvania School of Medicine, later interning at the St. Agnes Hospital in Philadelphia in 1920. His practice of internal medicine and diagnosis started in Kansas City in 1921 and was supplemented by frequent postgraduate work, including studies at the University of Vienna in 1924-25 and at the Harvard Medical School in 1929. He married Zora H. Taxman and was a devoted father to a daughter, Suzanne, and a son, Robert Arthur. He had been a member of the staff of St. Margaret's Hospital, St. Joseph Hospital, and Kansas City General Hospital since 1925. He had been a member of the original Menorah Hospital staff since 1931, was President of the Staff in 1936 and became Chairman of the Department of Medicine in 1950. Dr. Ginsberg was President of the Alfred Benjamin Dispensary, organized its special services, and had been its Consulting Cardiologist since 1935. He had served actively and faithfully in the Department of Medicine of the University of Kansas since 1926, being made Clinical Professor of Medicine in 1953. He was a Director of Clinics of the Southwest Clinical Society in 1929-31. He was President of the Kansas City Academy of Medicine and of the Greater Kansas City Heart Association, Director of the Missouri Heart Association, a member of the American Medical Association, the American Therapeutic Society, American Association for the Study of Goiter, Association for the Study of Internal Secretions, and a member of the New England Heart Association. He was certified by the American Board of Internal Medicine in 1938 and was elected a Fellow of the American College of Physicians in 1929.

Dr. Ginsberg was the author of numerous articles in the field of internal medicine and diseases of the circulation after he had done fundamental research in the Department of Physiology at the University of Kansas. His writings covered hyperthyroidism and diabetes associated with diabetes mellitus, cardiac conditions associated with exophthalmic goiter, metabolic and serological changes in flight fatigue, studies of the coronary circulation with the effects of ephedrine on coronary circulation, effects of dextrose on the coronary circulation, and many others.

His work in medical dispensary and public health activities was widely noted, and he received the Distinguished Service Medal of the Health Conservation Association in 1934.

He devoted an unusual length of time to the teaching of students, interns, and residents at the University of Kansas, at the Kansas City General Hospital, and at the Menorah Hospital, showing an unusual ability, both as a teacher and an organizer in these departments. He continued at an unsparing pace in his teaching, in his care of patients and his public health work for six years after his first coronary artery occlusion.

He was a civic as well as a medical leader, and he demonstrated an unusual quality and capacity for friendship as well as his unusually studious medical attitude. He gave unselfishly as long as he was able to Masonic and religious activities.

Dr. Ginsberg was deeply interested in medical education and medical students, one manifestation of which is the A. Morris Ginsberg Scholarships for second- and third-year medical students for the top members of their classes, and, in addition, he established a loan fund for the needy medical students.

His medical service at the Kansas City General and the Menorah Hospitals was very outstanding and popular with the students and the house staff; his confreres keenly feel the loss of his skills and his friendly aid; and he leaves a host of friends, from civic leaders to clinical patients, who will remember him as a talented and consecrated physician.

A memorial fund for continued lectureships in cardiology has been established in his name.

GRAHAM ASHER, M.D., F.A.C.P.

#### DR. JOHN E. HUTTON

Dr. John Evans Hutton, F.A.C.P., died on April 8, 1955, from a cerebral hemorrhage.

Dr. Hutton was born in Mechanicsville, N. Y., on July 6, 1887. He received his M.D. degree from Syracuse University College of Medicine in 1921. He was an intern at St. Joseph's Hospital, Syracuse, in 1921 and an intern and resident at the New York Post-Graduate Hospital from 1921-23. At the New York Post-Graduate Medical School and Hospital he successively held the following positions from 1923-48: Instructor in Medicine, Associate in Medicine, Assistant Professor of Medicine, Associate Professor of Clinical Medicine, as well as Assistant Visiting Physician, Associate Visiting Physician, and Chief of Clinic, Outpatient Department. He was Director of Medicine (1936-39), Visiting Physician and Consulting Physician at the Gouverneur Hospital. He was Assistant Visiting Physician and Chief of Gastro-intestinal Clinic (1946-50) and Associate Visiting Physician (1950-55) at Roosevelt Hospital. He was former Gastroenterologist, Woman's Hospital, and Visiting Physician at the Welfare Hospital.

Dr. Hutton was a Diplomate of the American Board of Internal Medicine. He was a member of the New York County Medical Society, Medical Society of the State of New York, American Medical Association, New York Gastroenterological Association and Alpha Omega Alpha fraternity. He became a Fellow of the American College of Physicians in 1941. He is survived by his wife, Antoinette Abbott Hutton, 3449-87th Street, Jackson Heights, N. Y.

It is with sincere regret that Dr. Hutton's many friends and confreres record his passing at this time.

IRVING S. WRIGHT, M.D., F.A.C.P.,  
Governor for Eastern New York

#### DR. GABRIEL B. KRAMER

Gabriel Bernard Kramer, M.D., F.A.C.P., who was born in Birsh, Lithuania, on April 1, 1884, died April 6, 1955, at Georgetown University Hospital following a cerebral hemorrhage.

After receiving his M.D. degree from Baltimore Medical College in 1907, Dr. Kramer interned at Grace-New Haven Community Hospital, New Haven, Conn., before undertaking postgraduate work in pathology at the University of Maryland School of Medicine and College of Physicians and Surgeons during 1908-09. After two years as Professor of Pathology at New Orleans University Medical College



(Flint Medical College), Dr. Kramer moved to St. Louis where he was on the faculty of Washington University School of Medicine.

In 1916 he was appointed Pathologist and Director of Laboratories of the Ancker Hospital at St. Paul, Minn., where he remained for seven years before going to Youngstown, Ohio. Here Dr. Kramer served as Pathologist and Director of Laboratories of the Youngstown Hospital for 23 years before going to St. Mary's Hospital, Decatur, Ill., where he acted in the same capacity. While at Youngstown, he was awarded A.B. and LL.B. degrees by Youngstown College in 1933. In 1947 he became Pathologist and Director of Laboratories at the Swedish-American Hospital, Rockford, Ill. Forced to retire in 1951 because of ill health, Dr. Kramer spent the last years of his life in Washington, D. C., and Seattle, Wash.

A Diplomate of the American Board of Pathology, Dr. Kramer became a Fellow of the American College of Physicians in 1926 and had been a Life Member since 1943. He is survived by his brother, Edward Kramer, 107 E. Uhler Ave., Alexandria, Va.

#### DR. HARRY MANDELBAUM

Dr. Harry Mandelbaum, F.A.C.P., of Brooklyn, N. Y., died on May 27, 1955.

Dr. Mandelbaum was born in New York City on March 7, 1895. He received his M.D. degree from Long Island College Hospital in 1919. He interned at the Greenpoint Hospital from 1919-20 and was Assistant Pediatrician from 1920-24. He was Instructor in Medicine at the Long Island College of Medicine from 1932-37 and Associate in Medicine from 1947-55 at the State University of New York College of Medicine at New York City. At the Jewish Hospital he held the following positions: Assistant in Medicine (1925-31), Chief of Medical Clinic (1931-47), and Associate in Medicine (1931-55); he had also been Physician-in-Charge of the Hypertension and Nephritis Clinic since 1939. He was an Associate in Medicine (1933-42) and Attending in Medicine (1942-55) at the Jewish Sanitarium and Hospital for Chronic Diseases, Consultant in Medicine at Williamsburg Maternity Hospital (1936-50) and Attending in Medicine at the Brooklyn Hebrew Home and Hospital for the Aged (1950-55). During World War II he served as a member of the Medical Advisory Board.

Dr. Mandelbaum was President of the Williamsburg Medical Society in 1936-37 and Treasurer of the Kings County Medical Society in 1945. A Fellow of the New York Academy of Medicine, he was a member of the Brooklyn Society of Internal Medicine, Brooklyn Pathological Society, Medical Society of the State of New York, and the American Medical Association. He was a Diplomate of the American Board of Internal Medicine and became a Fellow of the American College of Physicians in 1941. Dr. Mandelbaum is survived by his wife, Rose L. Mandelbaum, 571 Ocean Ave., Brooklyn 26, N. Y.

His friends and colleagues are saddened to learn of his passing.

IRVING S. WRIGHT, M.D., F.A.C.P.,  
Governor for Eastern New York

#### DR. EDWARD C. MITCHELL

Dr. Edward Clay Mitchell, F.A.C.P., of Memphis, Tenn., died on Feb. 1, 1955, at the age of 72, of heart disease.

He was born in Corinth, Ill., on Aug. 24, 1882. His college education was obtained at the Southern Illinois Normal School and in three years' attendance at the United States Military Academy. He received his M.D. degree from the Northwestern University Medical School in 1907. Thereafter he served an internship at the Michael Reese Hospital in Chicago from 1907 until 1909. He continued post-graduate studies in England, Scotland, and on the Continent.

Dr. Mitchell, during his professional life, remained constantly a teacher as well as a practicing physician. At the University of Memphis Medical Department, he held the positions first of Instructor in Bacteriology, Histopathology and Clinical Pathology, and then became first an Assistant in Pediatrics, followed by an Associate Professorship of Pediatrics, from 1914 to 1916. In the University of Tennessee College of Medicine, he held the position of Clinical Professor of Pediatrics from 1916 to 1920, when he became Professor and Chief of the Division of Pediatrics in 1926. He acted as Chief of the Division of Pediatrics at the John Gaston Hospital, Baptist Memorial Hospital and Crippled Children's Hospital School in Memphis from 1919 to 1940.

In World War I he was appointed as Commanding Officer of Base Hospital 57 with the rank of Colonel in the United States Army Medical Corps. He was stationed at Rheims and later established the first American Military Hospital in Paris. While there he gave a series of lectures on pediatrics at the Sorbonne in Paris and was awarded the Palms Medal.

As was shown by his appointments in teaching activities in the field of pediatrics, Dr. Mitchell had an early and active interest in this field. To him goes much credit for the development of the Pediatric Division of the medical school and the expansion of facilities for the care of sick children in his city. He was the first President of the Memphis Pediatric Society and of the Tennessee Pediatric Society.

His interest in his chosen field extended beyond his own community. He was a Charter Member of the American Academy of Pediatrics and was its President in 1941. A former President of the Central States Pediatric Society, he served as Chairman of the Pediatric Section of both the American Medical Association and the Southern Medical Association. With the formation of the American Board of Pediatrics, he became a strong supporter of this organization and was one of its early Diplomates.

In addition to Dr. Mitchell's membership in the several pediatric societies, he was also a member of his local society and of the Tennessee State Medical Association, the Southern Medical Association and the American Medical Association. He became a Fellow of the American College of Physicians in 1929.

In addition to the stimulation he gave to pediatrics on a local and nationwide stage in organization, in discussions at meetings, and as a teacher, he contributed extensively to the pediatric literature.

Unfortunately Dr. Mitchell suffered an incapacity in 1939 that forced him to give up his practice. Nevertheless, his interest in pediatrics continued through the remaining years of his life and was manifested in his continued reading and advice in the affairs of the local pediatric group. He continued to attend meetings of certain of the pediatric societies and with great enjoyment kept up his old friendships and acquaintanceships, especially with the younger pediatricians whom he had trained and guided in their careers.

Dr. Mitchell will be long remembered for his influence as a teacher, an organizer in the development of pediatric societies and as a man of action in the improvement of the care of children. The children of Memphis owe much to Dr. Mitchell in the progressive development of facilities and interest for their care.

He is survived by his wife, Mrs. E. C. Mitchell, 774 Snowden Circle, Memphis 4, Tenn.

R. H. KAMPMEIER, M.D., F.A.C.P.,  
Governor for Tennessee

#### DR. JOSEPHINE B. NEAL

Dr. Josephine Bicknell Neal was born in Belmont, Maine, on Oct. 10, 1880, and died on March 19, 1955, of a cerebral hemorrhage.

Dr. Neal received her A.B. degree from Bates College in 1901, and her M.D. from Cornell University Medical College in 1910. She received her Doctor of Science degree from Bates College in 1926. She was Clinical Professor of Neurology at Columbia University College of Physicians and Surgeons from 1931-42. She became the Director of the Meningitis Division of the Research Laboratory of the New York City Department of Health in 1941, and she was in charge of the Division of Applied Therapy of the Bureau of Laboratories, later becoming Associate Director of the Bureau. In 1927 Dr. Neal was appointed Executive Secretary of the Matheson Commission for Encephalitis Research at the Neurological Institute of New York, and also Consultant (1931), and Director (1936) of Acute Infections of the Central Nervous System. She was former Consultant to the Neurological Service at the New York Infirmary for Women and Children and former Visiting Physician, Neurological Service, at the Willard Park Hospital; she retired in 1942.

Dr. Neal was the author of numerous publications on meningitis, co-author of *Encephalitis: The Clinical Study* and a contributor to Abt's *Pediatrics*. She was the recipient of an Elizabeth Blackwell Citation from the New York Infirmary in 1953. She was a Diplomate of the American Board of Psychiatry and Neurology and became a Fellow of the American College of Physicians in 1931.

Josephine Neal has contributed greatly to the knowledge of infectious diseases of the central nervous system. She was beloved by those who worked with her and an inspiration to many young workers in the field of medicine. It is with sadness that these and her many other confreres and friends at this time record their sympathy at her passing. Record should also be made of the great obligation which they feel toward her leadership.

IRVING S. WRIGHT, M.D., F.A.C.P.,  
Governor for Eastern New York

#### DR. WILLIAM H. ORDWAY

William Herbert Ordway, M.D., F.A.C.P., formerly of Mount McGregor, N. Y., died in Springfield, Mass., on April 1, 1955, from coronary thrombosis with complications.

Dr. Ordway was born in Massachusetts on March 24, 1889. He graduated from Yale University School of Medicine in 1912 and interned at the New York City Hospital from 1912-14. He was Assistant Physician from 1919-25, Associate Physician in 1926, and Physician-in-Charge of the Metropolitan Life Insurance Company Sanatorium, later becoming Chest Consultant at the Saratoga Hospital.

Dr. Ordway served as Clinical Assistant at the Potter Metabolic Clinic from 1915-16. During World War I he was a Captain in the Medical Corps of the U. S. Army and was stationed at Camp Mills and at General Hospital No. 9, Lakewood, N. J.; he served overseas from 1917-19. He was a member and former President of the Board of Trustees of the Potts Memorial Institute, Livingston, N. Y. He retired from active practice in 1940 because of physical disability and later moved to live at Longmeadow, Mass.

Dr. Ordway was President of the Saratoga County Medical Society from 1929-31, of the American Sanatorium Association in 1935, and of the Saratoga County Tuberculosis and Public Health Association in 1936. He was a member of the Medical Society of the State of New York, American Medical and National Tuberculosis Associations, and the American Academy of Tuberculosis Physicians. The author of numerous papers on tuberculosis, he became a Fellow of the American College of Physicians in 1936.

Dr. Ordway was highly respected by his colleagues and friends; they have sustained a severe loss in his death.

EDWARD C. REIFENSTEIN, SR., M.D., F.A.C.P.,  
Second Vice President

#### DR. WILLIAM H. ROSS

Dr. William Hugh Ross, F.A.C.P., of Brentwood, N. Y., was born on Aug. 14, 1862, and died on May 9, 1955, from a coronary occlusion.

Dr. Ross attended State Normal School in Geneseo, N. Y., and received his M.D. degree from Columbia University College of Physicians and Surgeons in 1888. He interned at Presbyterian Hospital from 1888-90. He was Consulting Physician at the Pilgrim (Central Islip) State Hospital in Brentwood from 1906-49. He became Attending Physician of the Southside Hospital in Bay Shore in 1923, President of the Medical Board from 1923-28 and was a member of the Medical Staff. Dr. Ross was former Vice President and President of the Board of Managers at the Suffolk Sanatorium, Holtsville, with which he had been affiliated since 1916. For many years, beginning in 1928, he was President of the Suffolk County Board of Health; he retired on June 1, 1949.

He was President (1930-31) and later Trustee of the Medical Society of the State of New York, President of the Suffolk County Tuberculosis and Public Health Association from 1918-32, President of the Suffolk County Medical Society from 1903-05, and President of the Associated Physicians of Long Island in 1908. Dr. Ross was a Fellow of the New York Academy of Medicine. He was a member of the American Medical, World Medical, and American Public Health Associations. He became a Fellow of the American College of Physicians in 1932.

It is with sorrow that his friends and confreres note his passing at this time. He is survived by his daughters, Mrs. Randall J. LeBoeuf, Jr., of Old Westbury, and Mrs. H. E. Chauvin, 140 E. 28th St., New York City.

IRVING S. WRIGHT, M.D., F.A.C.P.,  
Governor for Eastern New York

#### DR. E. KOST SHELTON

Dr. Eberle Kost Shelton, a Fellow of the American College of Physicians since 1939 and a Diplomate of the American Board of Internal Medicine, died on Feb. 22, 1955, following an operation for intestinal obstruction. He was born in Bloomfield, Iowa, May 19, 1888, and graduated from the University of Colorado School of Medicine in 1911. In 1944 he received an honorary D.Sc. from this same institution. After practicing for several years in Colorado, Dr. Shelton came to Santa Barbara, Calif., in 1929 and to Los Angeles in 1936. He was Associate Clinical Professor of Medicine at the University of Southern California School of Medicine from 1931-51 and Clinical Professor of Medicine at the University of California School of Medicine at Los Angeles 1950-55.

He founded The Shelton Clinic in 1930, first in Santa Barbara and later in Los Angeles, and was its Director until his death. Dr. Shelton was Director of The Endocrine Clinic for the City and County Hospital of Los Angeles from 1931-54. He was active in the Association for the Study of Internal Secretions, having been a former President, Secretary-Treasurer and Member of the Council. He was a Consulting Staff Member of St. John's Hospital in Santa Monica.

Dr. Shelton was the author of numerous publications on metabolic and endocrine diseases and was an active contributor to the College Annual Sessions. He was an observing teacher and to associates a great inspiration and advisor. Dr. Shelton was a kindly man, and his numerous friends in the profession suffer a distinct loss in

his death. We extend sympathy to his son, Paul Kingsley Shelton, and to his widow, Margaret, of 760 N. Beverly Glen Blvd., Los Angeles.

LELAND HAWKINS, M.D., F.A.C.P.,  
Governor for Southern California

#### DR. NORMAN STRAUSS

Dr. Norman Strauss, F.A.C.P., of Mount Vernon, N. Y., died on Feb. 6, 1955, of hypertensive cardiovascular disease with congestive failure.

Dr. Strauss was born in New York on Feb. 6, 1901. He received his A.B. degree from Columbia University in 1921 and his M.D. from Columbia University College of Physicians and Surgeons in 1923. He served an internship in pathology at New York City Hospital. He also served as Clinical Pathologist of the Mount Sinai Hospital from 1925-26 and as Assistant Attending Physician to the New York City Hospital from 1927-31. Dr. Strauss had numerous hospital appointments, including former Chief of Medical Clinic, Associate Attending Physician, and Associate Gastroenterologist at the Jewish Memorial Hospital, Associate Visiting Physician at the Morrisania City Hospital, Consulting Gastroenterologist at the Mount Vernon Hospital, and Assistant Clinical Professor of Medicine at the New York Medical College, Flower and Fifth Avenue Hospitals. During World War II, he was Examining Physician to Local Board 122 of the New York Selective Service. He was a Fellow of the National Gastroenterological Association and a member of the Bronx County Medical Society, the Medical Society of the State of New York, the American Medical Association, and Sigma Alpha Mu fraternity. He was elected a Fellow of the American College of Physicians in 1934.

It is with sorrow that his friends and confreres note his passing at this time.

IRVING S. WRIGHT, M.D., F.A.C.P.,  
Governor for Eastern New York

#### DR. ADOLPH SACHS

It is with sincere regret that the members of the Nebraska Region of the American College of Physicians record the death of Dr. Adolph Sachs, of Omaha, Nebr., on May 2, 1955.

Born in Cheyenne, Wyo., on Dec. 31, 1885, Dr. Sachs soon moved to Omaha, where he received the degree of Doctor of Medicine from Creighton University School of Medicine in 1907. Following his internship at St. Joseph's Hospital, Omaha, he joined the faculty of the Creighton University School of Medicine in 1908. He spent the years of 1909-10 doing postgraduate study in Berlin, Vienna, London, Boston and New York. He returned to the same centers for further study in 1914.

Dr. Sachs resumed his private practice of internal medicine, but he devoted a great deal of time and energy to teaching at Creighton Medical School. He progressed in rank and was made Professor of Medicine and a member of the Administrative Board of the School of Medicine in 1920. Three years later he was made Head and Director of the Department of Medicine. He served brilliantly in that capacity from 1933 to 1950. Until his death he continued to teach and was a genuine inspiration to the many students and young physicians who frequently sought his counsel. He was Attending Physician, Director of the Medical Department and Member of the Executive Committee of Creighton Memorial-St. Joseph's Hospital (1933-50). At various times he had important hospital appointments at St. Catherine's, Wise Memorial, Nicholas Senn, Lord Lister, Douglas County, Doctors, Bishop Clarkson Memorial and Nebraska Methodist Hospitals. He was Chief Medical Consultant for the Union Pacific Railroad for many years.

Dr. Sachs became a Fellow of the American College of Physicians on Dec. 30, 1918, and a Life Member in 1934. He served with distinction as Governor from 1927 to 1938. He was devoted to the College and its purposes, and he rarely missed an Annual Session or a Regional Meeting. He was a Diplomate of the American Board of Internal Medicine and was also certified in Gastroenterology. Recognition of his accomplishments and the esteem of his colleagues is attested by the fact that at various times he was President of the Nebraska State Medical Association, the Omaha-Douglas County Medical Association, and the Omaha Mid-West Clinical Society. He had a keen interest in, and was an active member of, all the organizations pertinent to the practice of his specialty, having recently been made a member of the U. S. Committee of The World Medical Association.

The desire and ability to keep abreast of medical progress, a keen comprehensive understanding of human nature, the demand of himself for exacting thoroughness and the habit of never taking anything for granted—all were qualities that made Dr. Sachs a truly great physician. He recognized, understood and successfully treated functional illness for many years before the term "psychosomatic" was introduced to medical literature. He sincerely enjoyed teaching and the companionship of students, interns and residents. In 1930 he established an award to be given each year to the graduating Creighton medical student who had attained the highest average grade for the four school years. Later he set up a separate award for the intern of St. Joseph's Hospital who had secured the greatest number of autopsies each year. Recently Dr. Sachs arranged that these awards would be permanent affairs. Through the years he held a deep interest in research. He personally financed and directed extensive research in iron and copper metabolism. Reports of this important investigation are recorded in our medical literature and are often quoted.

Soon after becoming ill, Dr. Sachs was informed by the President of Creighton University, the Reverend Carl M. Reinert, S. J., of the University's plan to promote him to Professor Emeritus and confer upon him an honorary degree at Commencement, June 2, this year. Although very ill at the time, Dr. Sachs was greatly pleased and expressed his gratitude. Since his untimely death changed these plans, a special award for Distinguished Service, known as "The Creighton Shield," was presented to his beloved wife, Ruth, by the President of Creighton University at the Commencement exercises.

Dr. Sachs was widely known, loved and respected. In 1948 he was awarded one of the highest tributes that the Catholic Church can bestow upon a layman. Pope Pius XII made him a Knight Commander with Star of the Order of Saint Gregory the Great. This award signifies exceptional contribution toward the welfare of man and this marked the fourth time that it had been given to anyone not of the Catholic faith.

Throughout his distinguished and busy career, Dr. Sachs always had time for a puzzled student, a colleague in need of help or a worried patient or relative. He is survived by his loving and devoted widow, Ruth, (5211 Underwood Ave., Omaha); a daughter, Mrs. Gwendolyn Sachs Weaver; and one grandson, Arthur Adolph Weaver. In his passing we cannot measure our loss, but we can soon appreciate the important legacy he left as an inspiration to all who strive to be learned, understanding, conscientious and trusted physicians.

EDMOND M. WALSH, M.D., F.A.C.P.,  
Governor for Nebraska



## COLLEGE NEWS NOTES

### MEETINGS, A.C.P. COMMITTEES AND BOARD OF REGENTS

All standing Committees of the American College of Physicians will meet at the College Headquarters in Philadelphia on November 10-12, 1955, and the Board of Regents on November 12-13, 1955.

The proposals of candidates for membership in the College should be filed sixty days in advance thereof.

### EXECUTIVE COMMITTEE—A.C.P. BOARD OF GOVERNORS

The Chairman of the Board of Governors has appointed the following Executive Committee of that Board, to operate between meetings of the Board of Governors and to be a liaison committee with the Board of Regents:

Carter Smith, Chairman, Governor for GEORGIA  
 Theodore C. Bauerlein, Governor for UTAH  
 Charles M. Caravati, Governor for VIRGINIA  
 Charles A. Doan, Governor for OHIO  
 William C. Menninger, Governor for KANSAS  
 Richard P. Stetson, Governor for KANSAS  
 Irving S. Wright, Governor for Eastern NEW YORK

The Board of Governors of the American College of Physicians is largely concerned with membership, Regional Meetings, Postgraduate Courses and local state activities.

### A.C.P. REGIONAL MEETINGS

#### AUTUMN SCHEDULE

<i>Territory</i>	<i>Place</i>	<i>Date</i>	<i>Governor in Charge</i>
WEST VIRGINIA	White Sulphur Springs	Aug. 19	Paul H. Revercomb, M.D.
NORTH DAKOTA	Jamestown	Sept. 10	Robert B. Radl, M.D.
SOUTHEASTERN (Cuba, Fla., Ga., S. C. and Ala.)	Charleston, S. C.	Oct. 7-8	Robert Wilson, M.D.
MONTANA-WYOMING	Billings	Oct. 7-8	Harold W. Gregg, M.D.
MIDWEST (Ill., Ind., Iowa, Minn., Wis.)	Madison, Wis.	Oct. 15	Frederick W. Madison, M.D.
KENTUCKY-TENNESSEE	Louisville	Nov. 5	Sam A. Overstreet, M.D.
NEW JERSEY	Newark	Nov. 9	Edward C. Klein, Jr., M.D.
ARKANSAS-OKLAHOMA	Hot Springs, Ark.	Dec. 3	A. A. Blair, M.D.
MICHIGAN	Detroit	Dec. 3	H. Marvin Pollard, M.D.
NORTH CAROLINA	Winston-Salem	Dec. 8	Elbert Persons, M.D.
LOUISIANA-MISSISSIPPI	Shreveport	Jan. 21	M. D. Hargrove, M.D.

Other Regional Meetings are in the process of arrangement and will be announced in future issues of this journal.

THE FELLOWSHIP AND SCHOLARSHIP PROGRAM OF THE AMERICAN  
COLLEGE OF PHYSICIANS

## Research Fellowships

Six Research Fellowships in Medicine will be available from July 1, 1956, to June 30, 1957. These Fellowships are designed to provide an opportunity for research training either in the basic medical sciences or in the application of these sciences to clinical investigation. They are for the benefit of physicians who are in the early stages of their preparation for a teaching and investigative career in internal medicine or pediatrics. Assurance must be provided that the applicant will be acceptable in the laboratory or clinic of his choice, and that he will be provided with the facilities necessary for the proper pursuit of his work. Stipends vary from \$3,300.00 to \$5,000.00 per annum, depending on number of dependents.

## The A. Blaine Brower Traveling Scholarships

and

## The Elizabeth Archbold Bowes Traveling Scholarship

The aim of these Scholarships is to provide an opportunity for worthy, young physicians, preferably Associates of the College, to spend a month, more or less, as visiting fellows at some institution, or institutions, for observation and postgraduate study. The Committee on Fellowships and Scholarships of the College facilitates opportunities for these Scholarships at outstanding institutions where a month's observation, contact and study will be an exceptional inspiration and a practical source of training. The Brower Traveling Scholarships (two) are available throughout the United States and Canada. The Bowes Traveling Scholarship is restricted to candidates from Canada. Recipients are chosen and institutions designated by the Committee on Fellowships and Scholarships, approved by the Board of Regents of the College. Applications shall be filed before October 15, each year; recipients will be selected by the Committee at its mid-November meeting. Scholarships will be arranged to start after the following January 1, at the convenience of the recipient and the preceptor or institution. The first awards available to start January 1, 1956.

## Mead Johnson Postgraduate Scholarships

Through a grant from Mead Johnson and Company, the College has available three awards of \$1,000.00 each annually. Recipients shall be individuals who intend to practice internal medicine, who appear to possess the attributes for success in that specialty and who need funds to help them obtain their goal of adequate education in internal medicine. Awards are open to internes or residents, with some preference to residents. The awards are administered by the Committee on Fellowships and Scholarships of the College. Each Governor of the College (there is a Governor for each State or Province) shall have the privilege to submit one nomination from his state, province or territory, to be accompanied by a letter of justification and important details. Unless otherwise specified, nominations shall be made to the Executive Office of the College by October 1, each year; selections will be made at the mid-November meeting of the Board of Regents, the Scholarships to begin the following July 1.

Communications should be addressed to: Mr. E. R. Loveland, Executive Secretary, American College of Physicians, 4200 Pine St., Philadelphia 4, Pa.

## AMERICAN BOARD OF NUTRITION

The American Board of Nutrition was incorporated in 1948 by persons and organizations interested in the practice of the science of human nutrition. To date, 115 persons have been certified. This Board does not have an official connection with the Advisory Board for the Medical Specialties, but is an independent, certifying body whose objective is "to establish standards of qualification of persons as specialists in the field of human nutrition and to certify as such, persons who comply with the standards so established."

One of the stated qualifications is "Ph.D. degree or its equivalent in a biological science, or M.D. degree from an approved medical school."

A certificate granted by the Board does not of itself confer or purport to confer any degree, legal qualifications, privileges, or license.

The officers include Drs. Wendell H. Griffith of the University of California School of Medicine, President; W. H. Sebrell, Jr., F.A.C.P., National Institutes of Health, Bethesda, Vice-President; and Otto A. Bessey, University of Texas School of Medicine, Galveston, Secretary-Treasurer.

## THE A.C.P. MIDWEST REGIONAL MEETING

The Midwest Regional Meeting of the American College of Physicians covers the States of Illinois, Indiana, Iowa, Minnesota and Wisconsin. The Regional Meeting alternates from year to year among these States with the local Governor acting as the General Chairman.

On October 15, 1955, the Midwest Regional Meeting will be held at Madison, Wis., under the General Chairmanship of Dr. Frederick W. Madison, F.A.C.P., Milwaukee, Wis., College Governor for that State. Dr. J. L. Sims, F.A.C.P., of the University Hospitals at Madison, will be Chairman of Arrangements. Many titles for the program have been submitted and the program is being selected and prepared for publication. The scientific program will be presented in the theater of the Wisconsin Memorial Union which provides superior facilities. Noonday luncheon for the physicians will be held also at the Memorial Union. A special Ladies' Committee is organizing an entertainment program for the women, including a noonday luncheon at Maple Bluff Country Club. In the evening there will be a reception, cocktail party and dinner at the Madison Club for members and their wives, the dinner to be held on the deck overlooking Lake Monona.

The Midwest Regional Meeting has attained a reputation for a most excellent scientific program and attractive social features. Particularly does Madison lend itself to both the scientific and social programs, and members should early plan to attend the meeting and remain for the banquet and specially planned entertainment in the evening.

## THE WILLARD O. THOMPSON MEMORIAL TRAVELING SCHOLARSHIP

The College is happy to announce the establishment of the Willard O. Thompson Memorial Traveling Scholarship Fund in Medicine. This fund has been set up as a tribute to the memory of the late Dr. Thompson. The aim of this Scholarship is to provide the opportunity each year to a qualified young physician to spend a month or more as a visiting fellow at an outstanding institution for postgraduate study under a master clinician. Inquiries relative to this Scholarship should be addressed to: Mr. E. R. Loveland, Executive Secretary, American College of Physicians, 4200 Pine St., Philadelphia 4, Pa.

## THE RESIDENCY REVOLVING LOAN FUND OF THE AMERICAN COLLEGE OF PHYSICIANS

*Purpose:* To aid young physicians planning a future career in Internal Medicine, or specialties allied thereto, to pursue adequate graduate training as full-time residents, research assistants, junior instructors and/or fellows in accredited institutions, which training might otherwise not be available to them because of financial needs. The Committee may give some priority to candidates anticipating careers in academic medicine, although that shall not be a requirement.

*Regulations:*

- (1) Loans shall be restricted to full-time medical residents, research assistants, junior instructors and fellows in training in accredited institutions;
- (2) Loans shall be limited to not more than \$1,000.00;
- (3) Loans may be made for varying periods of time, up to a maximum of ten years, but may be repaid in part or in full at any anniversary or semi-anniversary dates of the loan;
- (4) No interest shall be charged for the first two years of the loan; thereafter, simple interest shall be charged at the rate of 3% per annum, payable annually;
- (5) Application shall be made on the official form supplied by the College;
- (6) When the application is approved by the Committee, the borrower shall sign the official, non-negotiable contract form supplied by the College; endorsers will not be required;
- (7) All repayments and interest on loans shall be returned to the Residency Revolving Loan Fund, thus to perpetuate the Fund and its benefits for the future.

Application forms may be obtained by writing to: Mr. E. R. Loveland, Executive Secretary, American College of Physicians, 4200 Pine St., Philadelphia 4, Pa.

## EXAMINATIONS BY CERTIFYING BOARDS

The American Board of Internal Medicine, William A. Werrell, M.D., Executive Secretary-Treasurer, 1 W. Main St., Madison 3, Wis. Written examinations will be held Oct. 17, 1955, at selected centers. The closing date for the filing of applications was May 1.

The following oral examinations have been scheduled:

Portland, Ore.—Sept. 14-16  
Chicago, Ill.—Nov. 30-Dec. 2

An oral examination in the sub-specialty of Cardiovascular Disease will be held in Chicago, Nov. 30-Dec. 1. The closing date for applications was June 1.

The American Board of Pediatrics announces the following schedule for the oral examinations to be held by that Board:

Chicago, Ill.—Oct. 7-9  
Washington, D. C.—Dec. 2-4

Administrative Secretary, Mrs. John McK. Mitchell, 6 Cushman Rd., Rosemont, Pa.

The American Board of Dermatology and Syphilology, which gave its written examinations on June 30, has announced that the oral examinations will be given in Washington, D. C., on Oct. 14-16. Final date for filing applications was March 15. Secretary, Dr. B. M. Keston, One Haven Ave., New York 32, N. Y.

American Board of Psychiatry and Neurology: San Francisco, mid-October; New York City, December. Secretary, Dr. David A. Boyd, 102-110 Second Ave., S.W., Rochester, Minn.

American Board of Preventive Medicine: Certification in Public Health, Kansas City, Mo., Nov. 10-12. Secretary-Treasurer, Dr. Ernest L. Stebbins, 615 N. Wolfe St., Baltimore 5, Md.

American Board of Radiology: Chicago, Dec. 4. Final date for filing applications for the fall examination was July 1. Candidates who will complete their training by Dec. 31 will be eligible to appear for this examination. Secretary, Dr. B. R. Kirklin, Kahler Hotel Bldg., Rochester, Minn.

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#### COMING EVENTS

New York Medical College-Flower and Fifth Avenue Hospitals, Division of Graduate Studies, Department of Graduate Pediatrics, will offer a 30 session postgraduate course in Pediatric Allergy from Nov. 2, 1955, to May 31, 1956. The course, which will be given on Wednesdays from 9 A.M. to 4 P.M., will consist of lecture seminars; laboratory and clinical procedures; clinic work; ward rounds; and animal experimentation covering basic principles of diagnosis and treatment of allergy in children, and applied immunology. The fee is \$300.00. Applicants, who must be certified in pediatrics or have the requirements for certification, may apply to the Office of the Dean, New York Medical College, Fifth Ave. at 106th St., New York 29, N. Y.

The 62nd Annual Convention of the Association of Military Surgeons of the United States will be held at the Hotel Statler, Washington, D. C., Nov. 7-9, 1955. The Association is the only international society devoted to the military aspects of medicine, dentistry, nursing, veterinary medicine, and allied sciences.

The Army Medical Service will conduct its postgraduate course on the medical care of atomic casualties at the Walter Reed Army Medical Center six times in the fiscal year beginning July 1, 1955, instead of the four times such classes have been held in previous years. The dates for the six courses are: July 11-16; Sept. 12-21; Dec. 5-14; Jan. 30-Feb. 8, 1956; March 19-28; and June 4-13.

The 57th Annual Meeting of the American Hospital Association will be held in Atlantic City, N. J., Sept. 19-22.

The New York Academy of Medicine will hold its 28th Annual Graduate Fortnight Oct. 10-21, inclusive, on the subject of "Problems of Aging." The program will consist of 20 evening lectures and 4 evening panel meetings; 6 morning panel meetings; 19 afternoon hospital clinics; a Scientific Exhibit; and five Community Educational and Recreational Day Centers for the aged will hold open house. The registration fee is \$10.00 for the entire program, or \$6.00 for either week. All inquiries should be addressed to Secretary, Graduate Fortnight, The New York Academy of Medicine, 2 E. 103rd St., New York 29, N. Y.

The American Medical Association Annual Meetings: 1956—Chicago, July 11-15; 1957—New York, June 3-7; 1958—San Francisco, June 23-27; 1959—Atlantic City, June 8-12. Clinical Meetings: 1955—Boston, Nov. 29-Dec. 2; 1956—Seattle, Nov. 27-30; 1957—Philadelphia (exact date not given).

The 24th Annual Meeting of the American Academy of Pediatrics will be held at the Palmer House, Chicago, Ill., Oct. 1-6, 1955. The Seminars will be held Oct. 1-2, while the General Sessions will be conducted Oct. 3-6.

The Michigan Chapter of Arthritis and Rheumatism Foundation and the Michigan Rheumatism Society are sponsoring the Midwest Conference on Rheumatic Diseases in Detroit, Mich., Wednesday, Oct. 5, at the Henry Ford Hospital. The meeting will consist of a whole day of postgraduate sessions and will cover practically the

entire field of arthritic diseases. A number of members of the College will be on the program including: Dr. Charley Smyth, F.A.C.P., Denver, Colo.; Dr. Joseph Hollander, F.A.C.P., Philadelphia, Pa.; Dr. Joseph Bunim, F.A.C.P., Bethesda, Md.; Dr. Russell Cecil, F.A.C.P., New York City; Dr. Currier McEwen, F.A.C.P., New York City; Dr. Richard Freyberg, F.A.C.P., New York City; and Dr. Edward Lowman (Associate), New York City. Co-sponsorship of this important meeting has been obtained from the Department of Postgraduate Medicine, University of Michigan Medical School, the Michigan State Medical Society, Wayne University College of Medicine, Academy of General Practice, and the Wayne County Medical Society.

The 33rd Annual Fall Clinical Conference of the Kansas City Southwest Clinical Society, Kansas City, Mo., will be held in the Municipal Auditorium of that City, Oct. 3-6.

The next Annual Meeting of the American Psychosomatic Society will be held at the Sheraton Plaza Hotel, Boston, Mass., March 24-25, 1956. Dr. I. Arthur Mirsky, F.A.C.P., Pittsburgh, Pa., is the President-Elect.

We are listing below an outline of meetings and conferences which may be of interest to our readers:

- Oct. 10-12—American Academy for Cerebral Palsy, Memphis, Tenn.
- Oct. 16-19—Medical Society of Virginia, Hotel Jefferson, Richmond, Va.
- Oct. 22-26—American Heart Association, Scientific Session, New Orleans, La.
- Oct. 24-27—Omaha Mid-West Clinical Society, Paxton Hotel, Omaha, Nebr.
- Nov. 1-3—Henry Ford Hospital Symposium on Enzymes, Detroit, Mich.
- Nov. 14-17—Southern Medical Association, Houston, Tex.
- Nov. 19-21—American Association of Blood Banks, 8th Annual Meeting, Palmer House, Chicago, Ill.

#### *Foreign Meetings*

- Sept. 20-24—International Congress of European Society of Haematology, Freiburg i.Br., Germany. Prof. Dr. L. Heilmeyer, Hugstetter Strasse 55, Freiburg i.Br., Germany, Chairman.
- Sept. 20-26—World Medical Association, Vienna, Austria. Dr. Louis H. Bauer, 345 E. 46th St., New York 17, N. Y., Secretary-General.
- Sept. 30 to Oct. 3—International Congress of Medical Professional Jurisdiction, Medical Ethics, and Comparative Medical Law, Paris, France. Dr. J. R. DeBray, Conseil National de L'Ordre des Medecins, 60, Boulevard Latour-Maubourg, Paris 7e, France, Secretary-General.
- Oct. 6-8—Canadian Society for the Study of Fertility, Royal York Hotel, Toronto, Ont., Canada. Dr. Earl R. Plunkett, 469 Waterloo St., London, Ont., Canada, Secretary.
- Oct. 13-17—International Academy of Legal and Social Medicine, Plenary Conference, Genes, Italy. Prof. Domenico Macaggi, Institut de Medicine Legale, Universite de Genes, Genes, Italy, President.
- Oct. 15-22—Pan American Medical Social Convention, Bogota, Colombia, S. A. Dr. Leopoldo E. Araujo, Avenida de los Presidentes Num. 506, Apartado 2589, La Habana, Cuba, Secretary.
- Oct. 28-29—International Congress of International Society of Bronchoesophagology, Buenos Aires, Argentina, S. A. Dr. Juan Carlos Arauz, Cangallo 4015, Buenos Aires, Argentina, S. A., Secretary-General.
- Nov. 6-13—International Congress of Allergology, Rio de Janeiro, Brazil, S. A. Dr. Bernard N. Halpern, 197, Boulevard St. Germain, Paris 7°, France, Secretary-General.



Nov. 7-12—International General Medical Congress, University of Rosario Medical College, Rosario, Argentina, S. A. Dean Jose Imhoff, Santa Fe 3100, Rosario, Argentina, S. A., Chairman.

Nov. 18-26—Venezuelan Congress of Medical Sciences, Caracas, Venezuela, S. A. Dr. A. L. Briceno Rossi, Apartado 4412, Ofic. del Este, Caracas, Venezuela, S. A., Secretary-General.

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May 18-26—World Congress on Fertility and Sterility, Naples, Italy. For information write: Prof. G. Tesauro, S. Andrea della Dame, 19, Naples, Italy.

May 20-22—International Congress of Neo-Hippocratic Medicine, Montecatini, Terme, Italy. Prof. P. Delore, 13 rue Jarente, Lyon, France, Secretary-General.

Dr. George Morris Piersol, M.A.C.P., Philadelphia, Dean of the University of Pennsylvania's Graduate School of Medicine, has announced that the School will offer special courses, starting in the Autumn, to prepare neurologists and ophthalmologists for careers in teaching and research. Dr. Julius H. Comroe, Jr., F.A.C.P., Philadelphia, Professor of Physiology, will be Program Director.

A major aim of the new courses is to "teach doctors to teach." Practice lectures not only will be appraised by fellow student-physicians, but also will be recorded, played back for critical analysis and replayed later to gauge progress. After some months the student-physicians will be given actual teaching rôles, under supervision. Besides lecturing, they will be given practice in such teaching situations as conferences, seminars and ward rounds.

Candidates for the courses must either be certified by the American Board of Neurology or the American Board of Ophthalmology or have met most of the requirements for certification. Preference will be given to doctors recommended by their own medical school faculties with the understanding they will return for full-time teaching and research careers.

Dr. LeRoy H. Sloan, F.A.C.P., Chicago, has been appointed as Official Observer of the American College of Physicians to the 9th General Assembly of the World Medical Association, to be held in Vienna, Austria, Sept. 20-26, 1955.

Rear Admiral Bartholomew W. Hogan, (MC), USN, F.A.C.P., Surgeon General of the Navy and Chief of the Navy's Bureau of Medicine and Surgery, received the Honorary Degree of Doctor of Science from Boston College and Tufts College recently. Admiral Hogan, the first native of Massachusetts to achieve the office of Surgeon General of the Navy, was conferred the honorary degrees during June commencement exercises of the respective schools of which he is an alumnus.

Dr. Karl A. Menninger, F.A.C.P., Topeka, and Dr. William C. Menninger, F.A.C.P., Topeka, College Governor for Kansas, were recently honored by the Kansas Public Health Association when they were the recipients of the Samuel J. Crumbine annual award given in recognition of their contribution to mental health in Kansas.

An honorary degree of Doctor of Science was conferred on Dr. Franklin D. Murphy, F.A.C.P., Milwaukee, Wis., Chancellor of the University of Kansas and former Dean of the University of Kansas School of Medicine, on the occasion of the 199th annual commencement exercises of the University of Pennsylvania, where he delivered the commencement address.

The Harvard Medical School has honored Dr. Samuel A. Levine, F.A.C.P., Boston, Mass., by naming a Chair of Medicine after him. Dr. C. Sidney Burwell, F.A.C.P., Boston, Mass., has been named as the first Samuel A. Levine Professor of Medicine.

Drs. William J. Cranton, F.A.C.P., and Curtis H. Carter (Associate), both of Augusta, Ga., were recently honored by election to membership in Alpha Omega Alpha, a national honor medical society.

The American Rheumatism Association, at their recent Annual Session, elected two Fellows of the College as President, and First Vice-President and President-Elect, respectively. Those thus honored were: Drs. Charles L. Short, Boston, Mass., and William D. Robinson, Ann Arbor, Mich.

Dr. Seymour Fiske, F.A.C.P., New York City, has recently been elected Vice-President of the American College of Cardiology. Dr. Fiske was a founder of this organization in 1947, and served as its first Treasurer. Dr. Fiske was also founder and is serving as Secretary-Treasurer of the Civil Aviation Medical Association.

Dr. Joseph Schein (Associate), New York City, was recently elected an Honorary Member of the Schilder Society, a psychiatric group.

Three Fellows of the College have been elected officers of the Medical Society of the State of New York. They are: Dr. Herbert Berger, Staten Island, Vice-President; Dr. Walter P. Anderson, New York City, Secretary; and Dr. Maurice J. Dattelbaum, Brooklyn, Treasurer.

Jerome A. Marks, M.D., F.A.C.P., New York City, and Milton J. Matzner, M.D., F.A.C.P., New York City, have recently been elected First Vice-President and Second Vice-President, respectively, of the New York Academy of Gastroenterology, an Affiliate of the American College of Gastroenterology. Dr. Joseph K. Van Dyne (Associate), Forest Hills, N. Y., was elected Secretary at the same meeting.

Dr. M. C. Carlisle, F.A.C.P., Waco, has been appointed by Governor Allan Shivers of Texas to serve on the Texas State Board of Medical Examiners for a term of six years.

Dr. Albert Milzer, F.A.C.P., Chicago, was recently appointed Associate Professor of Bacteriology at Northwestern University Medical School. Dr. Milzer was also honored by the Illinois State Medical Society when he was presented the first medical progress award, together with his co-workers, for the development of an ultraviolet irradiated poliomyelitis vaccine.

Dr. Joseph H. Pratt, F.A.C.P., Boston, Mass., was honored at an all-day meeting held on June 20, sponsored by the Chaplains of Hospitals in New England, through the Massachusetts Council of Churches, at the New England Medical Center. The meeting was held to commemorate Dr. Pratt's 50th anniversary as a pioneer in group therapy. A demonstration and panel discussion on group therapy took place at the morning session and presentation of recent advances in the field of group therapy was held in the afternoon. The meeting concluded with a dinner.

Dr. Tom D. Spies, F.A.C.P., Birmingham, Ala., has been awarded the rank of Commendador (Exalted Knight) in the Order of Honor and Merit of the Cuban Red Cross. The ceremonies took place in Havana where Dr. Spies was decorated by Brigadier General E. Figarola Infante, President of the Cuban Red Cross, for his work in medical research in nutrition and metabolism and for his contributions toward eradicating tropical sprue.

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Dr. Leon J. Galinsky, F.A.C.P., Des Moines, Iowa, received the first annual Dr. Walter L. Bierring award at the recent joint meeting of the Iowa Tuberculosis and Health Association, the Iowa Trudeau Society and the Iowa Heart Association. The award was made "for meritorious service in tuberculosis control." Dr. Galinsky was instrumental in establishing home care for tuberculous patients in Polk County, Iowa.

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The International Benjamin Franklin Society has honored Dr. Howard A. Rusk, F.A.C.P., New York City, Director of the Institute of Physical Medicine and Rehabilitation at New York University-Bellevue Medical Center, by presenting him with a gold medal for his contribution to persons afflicted with physical disabilities and for training others to assist those afflicted.

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Edward L. Lame, M.D., F.A.C.P., has recently been elected Vice-President of the Philadelphia Roentgen Ray Society.

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Archibald C. Cohen, M.D., F.A.C.P., Butler, Pa., has been elected President of the Pennsylvania Trudeau Society, which is the medical section of the Pennsylvania Tuberculosis and Health Society.

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At a recent meeting of the Radiological Society of Arizona, R. Lee Foster, M.D. (Associate), Phoenix, was elected President.

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Dr. F. Garm Norbury, F.A.C.P., Jacksonville, Ill., has been installed as President of the Illinois State Medical Society.

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The Johns Hopkins Medical and Surgical Association at its recent meeting elected Dr. James Heyward Gibbs, F.A.C.P., Columbia, S. C., as one of its Vice Presidents.

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Dr. Wetherbee Fort, F.A.C.P., Baltimore, Md., is the newly elected Treasurer of the Medical and Chirurgical Faculty of the State of Maryland.

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Brigadier General Elbert DeCoursey, (MC), USA, F.A.C.P., San Antonio, Tex., has recently been elected Treasurer of the American Association of Pathologists and Bacteriologists.

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Dr. Jack D. Myers, F.A.C.P., formerly Associate Professor, Duke University School of Medicine, Durham, N. C., has been appointed Professor of Medicine and Chairman of the Department, University of Pittsburgh School of Medicine.

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The Missouri State Trudeau Society reports the election of Dr. Aaron A. Sprong, F.A.C.P., Excelsior Springs, Mo., as President.

New appointments at the Alabama Medical Center, University of Alabama, Birmingham, include the following members of the College: Elmer L. Caveny, M.D., F.A.C.P., has been appointed Professor and Chairman of the Department of Psychiatry. Dr. Caveny has recently retired from the Naval Medical Corps after 25 years of service. Thomas Fite Paine, Jr. (Associate), formerly Associate Professor of Bacteriology and Internal Medicine at the University of Michigan Medical School, Ann Arbor, has been appointed Professor of Microbiology and Chairman of the Department.

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Dr. Leo H. Bartemeier, F.A.C.P., Baltimore, Md., Clinical Professor of Psychiatry at Georgetown University School of Medicine, participated in the recent Pan American Congress of Psychiatry and Neurology in Havana, Cuba. He discussed "New Considerations of the Treatment of Neurosis."

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Dr. Michael G. Wohl, F.A.C.P., Philadelphia, Pa., addressed the 9th Community Nutrition Institute, sponsored by Syracuse University and the New York State Department of Public Health, on June 22. His topic was "The Relation of Cholesterol Metabolism to Coronary Artery Disease and Nutritional and Metabolic Aspects of Cardiac Failure."

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At a recent meeting of the New Jersey Neuropsychiatric Institute, Samuel B. Hadden, M.D., F.A.C.P., of Philadelphia, Pa., spoke on "The Dynamics of Group Psychotherapy."

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The 21st Annual Session of the Postgraduate Medical Assembly of South Texas was held at Houston in July. Fellows of the College who were on the program were: Donald F. Hill, M.D., Tucson, Ariz.; Maurice S. Segal, M.D., Boston, Mass.; Edgar A. Hines, Jr., M.D., Rochester, Minn.; Ewald W. Busse, M.D., Durham, N. C.; and Thomas M. Durant, M.D., Philadelphia.

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The 102nd Annual Session of the Maine Medical Association convened at Rockland in June. Three Fellows of the College were featured speakers at this meeting. Dr. Howard B. Sprague, Boston, Mass., spoke on "Factors in the Production of Atherosclerosis"; Dr. Donald S. King, of the Dartmouth Medical School, Hanover, N. H., presented a paper, "Modern Concepts in Treatment of Tuberculosis"; and Dr. Louis Weinstein, Boston, Mass., spoke on "Antibiotics in Pediatrics."

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Dr. William W. Frye, F.A.C.P., New Orleans, La., Dean of the Louisiana State University School of Medicine, presided at the recent dedication of the \$3,500,000.00 addition to the school. This new wing adds 96,000 sq. ft. to the school's facilities, and in addition contains a 650-seat auditorium, a library, a cafeteria, and a radioisotope laboratory.

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Dr. Thomas E. Machella, F.A.C.P., Philadelphia, Pa., was the guest speaker at a recent seminar on the "Diagnosis and Treatment of Common Diseases of the Gastrointestinal Tract," sponsored by the medical staff of the Broadus Hospital at Philippi, W. Va.

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Lewis W. Bluemle, Jr. (Associate), Philadelphia, Pa., was a recent speaker at a Symposium on Office Procedures and Clinical Medicine under the joint auspices of the Wisconsin Academy of General Practice and Lederle Laboratories Educa-

tional Services held on Lake Monona, Madison, Wis. Dr. Bluemle spoke on "Management of the Oliguric Patient."

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At the Minnesota Symposium on Arteriosclerosis, held early in the month of September, Dr. Paul Dudley White, M.A.C.P., Boston, Mass., was a speaker at the dinner meeting, presenting a paper on "The Coronaries Through the Ages."

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Dr. Louis A. M. Krause, F.A.C.P., Baltimore, Md., was a guest speaker at the annual banquet following the scientific meeting and golf tournament of the Preston County Medical Society, W. Va.

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Dr. Maxwell M. Wintrobe, F.A.C.P., Salt Lake City, Utah; Dr. Lester R. Dragstedt, F.A.C.P., Chicago, Ill.; and Dr. Josiah J. Moore, F.A.C.P., Chicago, Ill., were among the speakers at the annual meeting of the Montana Chapter of the American Academy of General Practice held in Anaconda.

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Dr. Jeanne C. Bateman (Associate), Washington, D. C., recently discussed her work in cancer chemotherapy at the Radiumhemmet in Stockholm, Sweden. Dr. Bateman went to Sweden at the invitation of Dr. Sven Hultberg, Director of Karolinska Institute. While in Europe, Dr. Bateman visited cancer hospitals in Germany and Italy.

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Paul B. Beeson, M.D., F.A.C.P., New Haven, Conn., and Frank G. Ebaugh, M.D., F.A.C.P., Denver, Colo., were among the guest speakers at the 63rd Annual Meeting of the Idaho State Medical Association held at Sun Valley in June.

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The Society of Nuclear Medicine held its second annual meeting in Portland, Ore., June 17-19. Dr. Howard P. Lewis, F.A.C.P., Portland, acted as moderator for the Saturday afternoon session, while the guest speaker at the banquet was Dr. John H. Lawrence, F.A.C.P., Berkeley, Calif. Dr. Lawrence spoke on "Philosophic and Historical Comments on the Development of Artificial Radioactivity."

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Seattle was the scene of the annual meeting of the Washington Tuberculosis Association on June 16-17. Dr. H. Corwin Hinshaw, F.A.C.P., San Francisco, Calif., spoke on "The Prevention of Illness: A Responsibility of the Private Physician" at the dinner closing the meeting.

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Dr. O. Spurgeon English, F.A.C.P., Philadelphia, Pa., was among the speakers at a three-day program on the aspects of health services entitled, "Lighthouses in a Changing World," sponsored by the New England Health Institute, and held at Colby College, Waterville, Maine, Aug. 30 to Sept. 1.

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Dr. Theodore Bothman, F.A.C.P., Beverly Hills, Calif., recently was guest speaker at a meeting of the Central Council of the Union of Turkish Physicians in Istanbul, Turkey. His subject was: "Dynamic Pharmacological Psychotherapy."

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Dr. Alfred P. Kraus (Associate), Assistant Professor of Medicine and Assistant Director of the Department of Medical Laboratories, The University of Tennessee College of Medicine, has been granted one year's leave to act as Visiting Professor of Hematology to the University of Indonesia under the University of California-

University of Indonesia Project in Medical Education. Dr. Kraus left during the first week of July and will return in 1956.

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Dr. Harvey J. Tompkins, F.A.C.P., for the past seven years Director of Psychiatry and Neurology Service, Department of Medicine and Surgery, Veterans Administration, Washington, D. C., has been appointed Director of Psychiatry at St. Vincent's Hospital. In addition to directing the intensive program of medical care, education and research in the new Jacob L. Reiss Memorial Mental Health Pavilion at St. Vincent's Hospital, Dr. Tompkins will serve as Coördinator in Psychiatry to the Catholic Charities of the Archdiocese of New York.

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The new Chairman of the Council of the Connecticut State Medical Society is C. Louis Fincke, M.D., F.A.C.P., Stamford.

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Dr. Michael M. Dacso (Associate), New York City, will serve as Consultant on the Health, Medical Care and Rehabilitation Committee of the Governor's Conference on Problems of the Aging, New York State.

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Dr. Harold Stevens, F.A.C.P., Washington, D. C., formerly Associate Professor of Neurology at George Washington University School of Medicine, has been named Professor of Neurology at that School. He replaced another Fellow of the College, Dr. Walter Freeman, who recently resigned to move to the West Coast.

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The United Mine Workers of America Welfare and Retirement Fund has announced the appointment of Dr. Gordon Montgomery Meade (Associate), as a Clinical Consultant. He will assist in the development of a medical program in ten new hospitals in the bituminous coal fields of West Virginia, Kentucky, and Virginia.

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Dr. Orren D. Chapman, F.A.C.P., Chairman, Department of Microbiology at the State University of New York College of Medicine at Syracuse, has departed for Amman, Jordan, on a two-year leave of absence to work with the U. S. Public Health Service as Chief of Cooperative Health and Sanitation in Jordan.

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Nelson A. Rockefeller of the U. S. Department of Health, Education and Welfare, has recently appointed Dr. Theodore G. Klumpp, F.A.C.P., New York City, and President of Winthrop-Stearns, Inc., to a four-year term as a member of the National Advisory Council on Vocational Rehabilitation. One of the goals of the Council is to help to restore 200,000 persons a year to useful lives by 1959. The present level is only about 60,000 annually. In addition to this appointment, Dr. Klumpp is Chairman of the Hoover Commission Task Force on Medical Services, and a Director of the World Medical Association and the Commission on Chronic Illness.

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Brigadier General Eugen G. Reinartz, U.S.A.F., (Retired), F.A.C.P., retired on July 11, 1955, from practice and as Chief Medical Officer of the State Prison Department of Corrections, State of California, and is now residing at Carmel Valley, Calif.

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Dr. Nathaniel E. Reich, F.A.C.P., Brooklyn, N. Y., was appointed Consultant in Cardiology to the Long Beach Memorial Hospital, Long Beach, N. Y., and the Kings Highway Hospital, Brooklyn, N. Y.



Dr. Chester S. Keefer, F.A.C.P., Boston, Mass., has been appointed Director, Boston University School of Medicine, effective July 1, 1955. In his new appointment Dr. Keefer is charged with coordination of the educational program of the University's School of Medicine and the services performed by the Massachusetts Memorial Hospitals. He has also been serving as Special Assistant on Health and Medical Affairs to Mrs. Oveta Culp Hobby, the former U. S. Secretary of Health, Education and Welfare.

Dr. Esmond R. Long, F.A.C.P., Philadelphia, Pa., a recipient of the 1955 Philadelphia Award and a national leader in the fight against tuberculosis, retired on June 30 as Director of the University of Pennsylvania's Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis. Dr. Julius Lane Wilson, F.A.C.P., Philadelphia, Pa., has been appointed Dr. Long's successor. Dr. Wilson has been Director of Clinics at the Phipps Institute and Professor of Medicine at the University of Pennsylvania. He has been Consultant to the Pennsylvania State Board of Tuberculosis Control, and Director of Medical Education of the American Trudeau Society.

Dr. A. A. Goldbloom, F.A.C.P., and Dr. L. J. Boyd, F.A.C.P., with several colleagues from the New York Medical College, Metropolitan Medical Center (Bird S. Coler Hospital Division), New York City, presented a scientific exhibit at the Annual Meeting of the American Medical Association June 6-10 at Atlantic City. The exhibit was titled, "Recent Methods in the Study and Treatment of Atherosclerosis in Normal Subjects 80-100 Years of Age."

A voluntary health program commensurate with the tremendous extent and gravity of the tragic diseases of alcoholism and drug addictions among our people has been launched. The new organization is known as the Alcoholism and Addictive Diseases Foundation, and has been sponsored by leading industrialists and educators. Temporary headquarters are at 135 E. 44th St., New York 17, N. Y.

The broad lines of the total program will follow this general pattern:

1. Conduct research into the most important problems directly and indirectly related to addictions, the causes, the results, and the interrelationships, for the purpose of developing useful methods: (a) of early detection of addictive tendencies; (b) of preventing potential addicts from becoming actual addicts; and (c) of treating and rehabilitating those unfortunates who have become addicts. Most of this broad and expanding program of research will be developed through grants-in-aid to universities and other organizations of standing in this and related fields.

2. Work with established treatment and rehabilitation centers and create new ones with outstanding facilities; also out-patient centers.

3. Assist established teaching institutions in training professional, technical, and other personnel in the care and rehabilitation of alcoholics and drug addicts.

4. Develop and carry out programs of information and education for the general public, particularly our youth, and for various groups including business corporations, scientific, educational, and philanthropic groups so that general understanding and therefore cooperation will be developed.

## REPORT OF THE JOINT EXECUTIVE SESSION OF THE BOARD OF REGENTS AND BOARD OF GOVERNORS

PHILADELPHIA, PA.

APRIL 24, 1955

A combined Executive Session of the Board of Regents and of the Board of Governors of the American College of Physicians was held on Sunday, April 24, 1955, at Convention Hall, Philadelphia, Pa., beginning at 2:15 P.M., with Dr. Cyrus C. Sturgis, President, presiding and Mr. Edward R. Loveland acting as Secretary.

By resolution the President was empowered to appoint a Committee to carry out the conditions of a bequest from the late Dr. Charles F. Martin, M.A.C.P., providing the sum of \$2,500.00 for the purpose of procuring by commission or purchase a suitable painting, preferably one intimately connected with the College or with Medicine in North America, to be placed in the Reception Room of the College Headquarters. The President appointed Dr. Edward L. Bortz, Chairman, Dr. Richard A. Kern and Dr. William D. Stroud, all of Philadelphia.

By resolution Dr. LeRoy H. Sloan, F.A.C.P., Chicago, was appointed Official Observer of the American College of Physicians to the World Medical Association's 9th General Assembly, Vienna, Austria, September 20-26, 1955.

Dr. LeRoy H. Sloan, F.A.C.P., Chicago, it was recorded, had been appointed by President Sturgis as the official representative of the American College of Physicians to the Southwestern Michigan Hospital Council, which has been engaged in conducting a study of how to evaluate the efficiency of hospitals, said survey being financed primarily by the Kellogg Foundation.

By formal resolution the Board of Regents approved an official academic gown that had been designed for the College, and then directed that it shall be worn by the platform party at the Annual Convocations, but with the alternative choice of one wearing his own gown, if desired. The Committee on Academic Regalia was continued, with directions to complete details relating to hoods and caps and methods of procedure.

The following memorial was read by Secretary-General Richard A. Kern and spread upon the Minutes of the meeting:

### "A MEMORIAL

#### CHARLES FREDERICK MOFFATT

"The Board of Regents of the American College of Physicians records with sorrow the death of Charles Frederick Moffatt in Montreal on September 18, 1954.

"Dr. Moffatt was born in Montreal in 1881. He received his education in Montreal High School and in McGill University, which conferred upon him the A.B. degree in 1901 and M.D., C.M. in 1905. After three years on the Resident Staff of the Royal Victoria Hospital and a period of study abroad, he received in 1909 his first appointment on the Faculty of Medicine at McGill University as Assistant Demonstrator in Medicine and a year later was also made an Associate in Medicine at the Royal Victoria Hospital. Throughout his professional career he continued in the service of these institutions, and had achieved the rank of Assistant Professor of Medicine in the University and as Physician to the Hospital at the time of his retirement from active teaching in 1946.

"His major clinical interest was in the field of cardiology, and he helped found the Montreal Cardiac Society and the Canadian Heart Association.

"In World War I he served as a Captain in the Canadian Army Medical Corps, first with the Fourth Divisional Artillery and then with the No. 1 Canadian General Hospital. During World War II he was Consultant in Cardiology in the Montreal District.

"From the time of his election as a Fellow of the American College of Physicians in 1929, Dr. Moffatt showed an active and ever increasing interest in its affairs. In 1938 he was made College Governor for Quebec and so served until he was advanced to Regent in 1946. After six years in that office, he was the Second Vice President in 1952-53.

"The Board of Regents expresses its grateful appreciation of his faithful, enlightened and constructive service to the College and of the privilege of his warm friendship, and extends to his widow and his son its heartfelt sympathy in their bereavement."

Dr. George F. Strong presented the following report on the Research Fellowship program of the College:

"Research Fellowships were first established by the College in 1934. In the first two years only one fellowship was granted each year. In 1936 there were three, and since then the number has varied. During the war years, 1943-44, no fellowships were awarded, but since then, the annual awards have been increased, until now six are given each year. Forty-eight fellowships were awarded up to and including 1953, one fellow has died and one has not answered the questionnaire. Forty-six replies have been tabulated (Dr. Strong distributed tables of the analyses).

"Table No. 1 covers details regarding the various fellows, including present age, university from which graduated, year in which the M.D. degree was received, date of fellowship appointment, period of fellowship, interval between receiving M.D. degree and the granting of the fellowship, place of fellowship and type of work. The interval between receiving his M.D. and the actual fellowship year was included to determine whether the fellowship was an early part of his graduate training or whether it was undertaken at a later time, a conclusion to that training. The table reveals a great variation in this interval, ranging from one to eight years, with an average of 4.2 years. It is of interest that awards have been given to graduates of universities in the following geographic areas:

East (including 13 at Harvard) .....	24
Midwest .....	8
South .....	4
Southwest .....	4
Canada .....	6

"The fellowship work was carried out in the following areas:

East (Boston, 10) .....	21
Midwest .....	6
South .....	6
Southwest .....	2
Canada .....	5
England .....	4
Egypt .....	1
Argentina .....	1

"In Tables Nos. 2 and 3 there is tabulated the present position of each fellow, including university appointment, full-time or part-time; hospital appointment; research activity, full-time or part-time; practice, full-time or part-time, and publications, total and during the past three years.

"Table No. 2 gives us information for those who completed their fellowships up to and including June 30, 1949, and Table No. 3 for those who completed their fellowships after this date.

"In connection with publications, it was thought that it might be of interest to know not only how many articles had been written, but whether such contributions were continuing up to the present time.

"In assessing the present position, it was felt that only those completing their fellowships by the end of June, 1949, or five full years before this analysis was started (November, 1954), should be considered. This included the first 29 fellows, 1 has died and 1 failed to reply; the 27 other replies were studied. Of these 27, the following academic appointments are held:

Professor of Medicine (including two Heads of Departments) ..	4
Associate Professor, Assistant Professor, Associate or Instructor	16
Research Professor .....	2
Professor of Bacteriology .....	1
Associate Professor of Physiology .....	2
Instructor in Pediatrics .....	1
Associate in Pathology .....	1

"Of the 27, 16 are still engaged in research work, 5 are on full-time and 11 on a part-time basis. Most of the 27 are engaged in teaching, only 5 on a full-time basis. In some of those engaged in research, the amount of teaching, if any, was not always specified.

"In conclusion, this very brief survey would seem to indicate that the College is making a very real contribution to the postgraduate training program on this Continent through the appointment of these Research Fellowships."

President Sturgis stated that the College had spent about \$200,000.00 on this program and that in his opinion it was money well invested and one of the finest things the College has done.

President Sturgis then introduced Mr. Herbert N. Morford, newly appointed Assistant Executive Secretary, and Mr. Paul L. Cotton, newly appointed Executive Assistant.

Secretary-General Richard A. Kern read the list of deaths since the last meeting of the Board, including 40 Fellows and 8 Associates, and the record was spread upon the Minutes.

Dr. Kern also reported the addition of 65 Life Members, making a grand total of 1,316, of whom 135 are deceased, leaving a living balance of 1,181, and the names were spread upon the Minutes of the meeting.

Dr. George Morris Piersol, Chairman of the Committee on Credentials, presented the report and recommendations of that Committee. The Committee had reviewed the status of physicians educated in foreign countries, with regard to their eligibility for admission to the American Board of Internal Medicine and to membership in the American College of Physicians. A plan is underway to develop an examination in a physician's home country before he comes to America, to evaluate his medical training. This relates purely to patient care, rather than postgraduate study. The American College of Physicians is particularly concerned with the subject, because the College requires certification as a prerequisite for advancement to Fellowship and this excludes at the present time foreign educated physicians who cannot definitely establish eligibility to the certifying board examinations.

The Credentials Committee reviewed a progress report on the status of the Governor's evaluation questionnaire concerning Associates' progress toward qualifying for advancement to Fellowship. Ten states had been covered, and the Committee recommended that the questionnaire in its present form should be continued and ap-

plied to all states, but suggested the addition of a question concerning certification status of the Associate.

The Committee had reviewed 343 proposals for Associateship and 184 proposals for Fellowship, and its recommendations are summarized as follows:

*Candidates for ASSOCIATESHIP*

Recommended for Election .....	263	
* Fellowship candidates recommended for Election first to Associateship .....	8*	271
Deferred .....		72
Rejected .....		8
		351
Less: Direct Fellow candidates recommended for Associateship .....	8*	
		343

*Candidates for FELLOWSHIP (21 Direct; 163 Advancement)*

Recommended for Advancement to Fellowship .....	126	
Recommended for Direct Election to Fellowship .....	11	137
Recommended for election first to Associateship .....		8
Deferred .....		39
Rejected .....		0
		184

By formal resolution, 271 candidates were elected to Associateship and 137 candidates to Fellowship (the list of names has already appeared in the June and July Issues of this journal).

Dr. Asa L. Lincoln, Chairman, reported for the Committee on Public Relations, and growing out of recommendations in his report, the following actions were taken:

- (1) The Board of Regents reconfirmed its action of November, 1954, providing that the College shall not participate in a proposal by the International Science Foundation, which had little concern and no particular advantage to the College;
- (2) Dues of 5 members were waived in full, as of January 1, 1955, because of physical incapacitation for remunerative medical work. The dues of 1 member were reduced because of partial physical disability. 3 Associates were dropped for delinquency in dues of two or more years' standing. Resignations of 1 Associate and 1 Fellow were accepted.

Dr. Thomas M. McMillan, Chairman of the Committee on Postgraduate Courses, made an extended report on the Postgraduate Course Program of the College, recording that more than 1,400 physicians had attended A.C.P. Courses during the year starting July 1, 1954. He further presented schedules of proposed courses for the autumn of 1955 and for the spring of 1956, these schedules being formally approved.

Dr. Lowell T. Coggeshall, Chairman, presented a most favorable report on the progress of the Latin-American Fellowship Program of the College, saying, in part, "I would like to commend the President of the College for his energy and judgment in establishing this program, and to express appreciation for the excellent co-operation we get from internists all over the country in accepting these young men.

Preceptors have expressed almost universal pride in these fellows; they like to work with them; they have done an excellent job and to me it seems this is one of the programs that has long range importance and implications to the College. It will continue to pay dividends for many years to come, and I suspect ultimately it will make the American College of Physicians a truly American College."

Dr. Edward L. Bortz, Chairman, presented the report of the Committee on Educational Policy, but restricted his report largely to the subject of medical television. He presented a summary of the evaluation of the telecast initiated by the American College of Physicians in September, 1954. That telecast was viewed by 8,494 individuals and the kinescopic motion picture of the telecast had been viewed by many thousands. Of those who viewed the original telecast, there were but 11 who did not think it worth while; 19 who did not consider the performance up to the standard of the College; 890 who did not favor open circuit telecast of medical subjects. Obviously, the telecast had been overwhelmingly successful, so far as the viewers were concerned, and had resulted in a host of other societies experimenting further with this new medium for medical education.

Dr. Bortz further reported in detail upon his representation of the College at a conference on medical television sponsored by the American Medical Association's Council on Medical Education and Hospitals and its Bureau of Medical Exhibits. The results of the experimental television programs were deemed promising. Here, said Dr. Bortz, is a medium through which medical centers may extend the findings of their laboratories, hospital wards and clinics and share the results of experimental work to include practically all the physicians of the nation. Television will not replace the basic proved methods of medical education. However, it has proved that it can be used for effective teaching, and it now appears that it will rapidly be extended in all the various specialties. The relative expense or economy of television can be determined only by its effectiveness in selective teaching situations. A great deal of research must be done to determine where and how television may best be used in postgraduate education. The subject matter may be factual or abstract. The technique is now being intensively studied. Kinescopic recordings make the programs available to an even larger number and offer excellent material for teaching purposes. Dr. Bortz expressed the belief that significant discussions at the Annual Sessions of the College, or in some of its Postgraduate Courses, may well lend themselves to telecasting and kinescopic recordings. The recommendations of the Committee on Educational Policy were:

- (1) Television is an important new medium in medical education and is an excellent method for wide dissemination of established and new information;
- (2) The College shall approve sponsorship (a) by institutions and organizations approved by the Council on Medical Education and Hospitals of the American Medical Association; (b) by reputable business organizations;
- (3) The College should take an active part in telecast programs under the following conditions: (a) selection of subject matter, method of presentation and personnel to rest with the College; (b) the College will be pleased to offer its services to acceptable sponsors in creating programs which it recognizes as important to physicians of the nation.

Adjournment.

Attest: E. R. LOVELAND,  
Secretary



## REPORT OF THE BOARD OF REGENTS

PHILADELPHIA, PA.

APRIL 27, 1955

The second meeting of the Board of Regents of the American College of Physicians convened at 12:30 P.M., Wednesday, April 27, 1955, at the Philadelphia Convention Hall, Philadelphia, Pa., Dr. Cyrus C. Sturgis, President, presiding and Mr. Edward R. Loveland acting as Secretary, with the following in attendance:

Cyrus C. Sturgis.....	President
George F. Strong.....	President-Elect
Marion A. Blankenhorn.....	First Vice President
Ramon M. Suarez.....	Third Vice President
William D. Stroud.....	Treasurer
Richard A. Kern.....	Secretary-General
Edward L. Bortz	
Herbert K. Detweiler	
Harold H. Jones	
Howard P. Lewis	
Dwight L. Wilbur	
Fuller B. Bailey	
Eugene B. Ferris	
Philip S. Hench	
T. Grier Miller	
J. Murray Kinsman	
Asa L. Lincoln	
Walter L. Palmer	
Karver L. Puestow	
Wallace M. Yater	
Maurice C. Pincoffs.....	Editor, ANNALS OF INTERNAL MEDICINE
Carter Smith.....	Chairman, Board of Governors
A. B. Brower.....	Chairman, Committee on Finance
William C. Chaney.....	Chairman, Committee on Insurance and Reference Committee on Voluntary Pre- paid Insurance
Arthur R. Colwell, Sr.....	Chairman, Committee on Criteria, Joint Commission on Accreditation of Hospi- tals
C. Wesley Eisele.....	Representative, Medical Audit Committee, American College of Surgeons
George Morris Piersol.....	Chairman, Committee on Credentials
LeRoy H. Sloan.....	Joint Commission on Accreditation of Hospitals
Richard P. Stetson.....	Governor for MASSACHUSETTS

Reading of the Minutes of the preceding meeting of April 24, 1955, was dispensed with, and the Secretary was instructed to present communications:

Numerous letters of protest had been received, particularly from pathologists, to the action of the Board of Regents at its November 14, 1954, meeting, favorably endorsing a proposal from the Council on Medical Education and Hospitals and the Advisory Board for Medical Specialties of the American Medical Association concerning establishment of certifying boards for individuals who may not have M.D.

degrees, as, for instance, microbiologists, clinical pathologists, and others. After general discussion, it was voted to refer the matter to a special committee for investigation, said committee to report back to the Board of Regents in November, 1955.

Dr. Wallace M. Yater, F.A.C.P., Washington, and Dr. Richard P. Stetson, F.A.C.P., Boston, presented extended and cordial invitations for the College to hold its 1957 Annual Session in the respective cities of Washington and Boston. Each presented details and statistics concerning facilities and advantages. The invitations were received with appreciation, but final action was deferred until the next succeeding meeting of the Board, giving members adequate time to consider the invitations.

Dr. C. Wesley Eisele, official representative of the American College of Physicians on the Medical Audit Committee of the American College of Surgeons, presented the following report:

"Since July, 1953, the American College of Surgeons, aided by a grant from the W. K. Kellogg Foundation, has been engaged in a research project designed to develop a practical medical audit method which a hospital staff could use for self evaluation. It is the intent of the study to devise a system which will be applicable to all branches of medicine.

"This study is under the direction of Dr. Robert S. Myers, Assistant Director of the American College of Surgeons. An Advisory Committee has been formed and one representative of the American College of Physicians is on this Committee. Since my appointment to this Committee there has been no meeting, but I have become familiar with the project through personal contacts, since the American College of Surgeons' program has become affiliated with the Professional Activity Study of the Southwestern Michigan Hospital Council, and in this project I have served as a consultant.

"The American College of Surgeons' Study Director has expressed his view in a publication, and there is one short paragraph which will give you the scope of the problem and the project.

"The medical audit will not be practicable, except for exceedingly limited uses, until simple and inexpensive methods are widely employed by hospitals for the collection, tabulation and analysis of pertinent and fundamental data concerning the care of the patient, and until more meaningful indices of adequate practice are in use.

"The American College of Surgeons has, under its medical audit program, investigated methods of professional service accounting. We have found, already in operation, a unique method devised by the Southwestern Michigan Hospital Council, also under a grant from the W. K. Kellogg Foundation. This method promises to fulfill the need for a practicable method of collecting, tabulating and analyzing data. The Professional Activity Study, as it is called, is also well along the way to providing for us much more realistic and useful indices of medical practice. We hope to complement this approach with the factor of medical judgment, and devise a practicable medical audit, and to this end the Southwestern Michigan Hospital Council project and that of the American College of Surgeons are in collaboration."

"In this collaboration a medical audit check form has been developed to be used in conjunction with objective information obtained on the same patients through the method of Dr. Vergil Slee and his group in the Southwestern Michigan Hospital Council. These data are tabulated by IBM machines.

"The judgment expressed in the American College of Surgeons audit form does not stand alone, but it is dependent upon concurrent use of the other objective data tabulations.

"At the present time four hospital staffs are serving as a pilot study in the American College of Surgeons program. In one hospital every patient discharge is audited by the staff committee, while in the other three records in selected categories of patients only are reviewed.

"In the experience thus far four observations seem to be valid:

- "(1) Hospital staffs will audit patient records and will criticize the work of colleagues.
- "(2) There seems to be a real desire on the part of doctors to evaluate their work.
- "(3) The use of a detailed form assists the staffs in bringing problems into clear focus.
- "(4) An audit program, to be continuously tolerated by a staff, must be selective. The burden of auditing all cases soon becomes intolerable, nor does it seem to be profitable.

"Further developments in the method are expected, particularly in the phase of inter-hospital comparisons and collaboration in both medical and surgical subjects, and also in the expansion in the number of the pilot group of hospitals. I understand there are two additional hospitals that will probably come into the program this month."

No action by the Board was indicated, except that the President pointed out that Dr. Eisele would address the General Session on the subject "Can the Practice of Internal Medicine Be Evaluated?"

Dr. LeRoy H. Sloan, Chairman of the A.C.P. Commissioners on the Joint Commission on Accreditation of Hospitals, reported that various changes are appearing in the technique of the examination of hospitals, new formats are being developed and a new point system is being adopted. Conferences had been held with the College of American Pathologists and the American Psychiatric Association, the latter having surveyed a few hospitals and expressed in its future plans the intent to co-operate with the Joint Commission. The Hartford Foundation has appropriated \$35,000.00 to the Commission to provide the services of a man for one year to discuss with medical organizations (nursing, hospital, etc.) their coöperation with the Joint Commission, and the grant will be available as soon as the Commission locates the appointee. Dr. Sloan outlined the criteria for removing hospitals automatically from the approved list, such as fire hazards, ghost surgery, excessive removal of normal tissue, lack of graduate nursing supervision, presence of irregulars on the hospital staff, etc. He reported an unspent balance from a grant by the American College of Physicians of \$9,476.56, and stated that the annual budget of the Commission is \$105,000.00. One problem bothering medical staffs, he said, is the multiplicity of medical meetings, and recommended that doctors must understand that a scientific program does not take the place of the analysis which must meet the standards of the Joint Commission. The College Commissioners, under Dr. Alex. M. Burgess, had been able to bring up a standard for consultation. Dr. Sloan informed the College that surveyors of the Joint Commission are employees of the member organization, such employees belonging to the supporting organization, entitled to the fringe benefits of that organization.

Dr. Sloan then reported his representing the College at a meeting of the Southwestern Michigan Hospital Council, which desires a directive from the American College as to whether it will co-operate with a proposed new commission to investigate techniques of analysis. He had information available for the enlightenment of interested members.

A resolution was adopted, directing that the Executive Secretary, Mr. E. R. Loveland, arrange an appointment to consult with the Director of the Joint Commission, Dr. Kenneth B. Babcock, in company with Dr. Sloan, to clarify administrative matters between the College and the Commission.

Dr. Wallace M. Yater, Chairman of the Committee on Medical Educational Films, reported that his Committee had spent much time, had worked during the past year, but had produced no films, largely because pharmaceutical houses who agreed to underwrite these films could not agree with the universities and those who were

"(2) In the place of one full-time field investigator (a position now authorized, but vacant), we propose that some twenty mature and responsible physicians in practice should each spend about two weeks as a consultant, surveying from two to five hospitals in his own area, but not in his own community. Honoraria and expenses paid to them would approximate the present appropriation for the full-time investigator. Each member of the Committee has volunteered to act in this capacity in order to gain experience. A dozen or so other internists or general physicians who have critical judgment, diversified interests and different perspectives should be selected carefully from various parts of the country. In this developmental stage we believe that the advantages of diversity of thinking far outweigh the disadvantages of lack of standardization in their appraisals.

"(3) For about one year this team would conduct an intensive survey of a selected group of representative hospitals of different types in various geographical areas. This should include small and large, teaching and non-teaching, departmentalized and nondepartmentalized institutions. Suitable pre-visit reports should be submitted by hospitals to be visited, thus providing them with an opportunity for self-evaluation. A visit check sheet should be prepared for recording of field notes. These data should be returned, along with a critical report, to the Director of the study. Interim and final meetings should be planned to reach conclusions, modify methods and criteria for prolonged use and prepare a final report.

"(4) Whereas appraisal of medical care would be the primary objective, information should also be gathered regarding internships and residencies in Medicine where such programs exist in the survey. Close liaison should be maintained with the Council on Medical Education and Hospitals of the American Medical Association and appropriate committees in the Association of American Medical Colleges.

"(5) The Committee does not suggest that such a pilot study would substitute for any part of the present programs of the Joint Commission on Accreditation of Hospitals or the Council on Medical Education and Hospitals. Our study would proceed parallel to the existing programs of both, probably leading to some revision in their Internal Medicine policies when it is completed.

"(6) Inasmuch as the point rating system currently used by the Joint Commission is now being revised, we recommend that general medicine be weighted much more heavily than at present, but prefer to make no concrete suggestions regarding either criteria or scoring.

"(7) The budget proposed for the pilot study for one year is:

Salary of Program Director .....	\$15,000.00
Secretary and Travel Expense .....	8,000.00
20 Consultants (\$50.00 daily for ten days each) .....	10,000.00
Travel Expense (\$200.00 for ten days each) .....	4,000.00
	<hr/>
	\$37,000.00
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Less budgeted expense for one field representative .....	15,000.00
	<hr/>
	\$22,000.00

"(8) We recommend that the Regents seek these funds from a Foundation interested in improvement in quality of medical care, but if they are unsuccessful in obtaining them within a reasonable period of time, the appropriation should come from College Funds.

"If the methods and criteria developed in the pilot study prove to be fruitful, they will be used as the basis for a relatively permanent program in general medicine. The Director and probably other personnel would continue to participate, but the rate of investigation would be speeded up by perfection of organization and mechanisms.

actually producing the films. A proposal had been received from one of the technical film producers to have the College underwrite the preparation of certain films for educational purposes. The Committee recommended against this procedure, because it would cost from \$20,000.00 to \$30,000.00 to make one film; the film would soon become out of date, and the College has no adequate machinery to devote the requisite amount of time to the project.

A formal resolution was adopted, to the effect that the College shall not expend any funds for the making of films.

Dr. Arthur R. Colwell, Sr., Chairman, made the following report for the Committee on Criteria for Accreditation of Hospitals in Medicine:

"The Committee convened at 2:00 P.M., Saturday, April 23, and reconvened at various other times on Sunday, April 24, and Monday, April 25. Present were Doctors Colwell, Eisele, Ferris, Kinsman and Luckey, with Dr. Sloan a guest at one meeting. The report and our recommendations follow:

"The system now in use for accreditation of hospitals is oriented largely towards evaluation of hospital administration and standards for surgery. This is understandable, in view of the historical antecedence of the American College of Surgeons and the American Hospital Association in the field. It is best exemplified by the fact that in the scoring method which the Joint Commission inherited from the American College of Surgeons the 50 points allotted to Internal Medicine compares most unfavorably with 100 for Surgery, 75 for Obstetrics, 95 for Clinical Laboratories, and even 40 for Anaesthesia.

"Since 1951 the American College of Physicians has participated in the activities of the Joint Commission to the extent of 3 out of 20 Commissioners. We have contributed about \$30,000.00 annually as our share of its general budget, including the salary and expenses of 1 of its 20 field investigators. It seems generally agreed that the American College of Physicians should participate more actively, particularly in the development of criteria and standards for patient care. This Committee was formed to advise as to the best methods for doing so.

"It is most difficult to distinguish between a hospital's quality of patient care on one hand and its teaching attitude on the other. There are many obvious points of overlap. The Committee has preferred, therefore, to include consideration of educational programs along with patient care standards.

"In the opinion of this Committee there is still inadequate information to establish the validity of standards proper for use in evaluating departments of Medicine and general medical practice. Therefore, we believe that we should not offer any arbitrary criteria for evaluation of performance in the many different existing types of hospitals. Meaningful criteria can be developed, we believe, only as a result of actual experience which we propose to obtain first. A pilot study by responsible people working in the field is essential, particularly for the purpose of developing methodology.

"With these principles in mind, and in recognition of the obligation of the American College of Physicians to help to improve patient care and educational standards in all hospitals, the Committee offers the following recommendations:

"(1) To assist this or another similar committee in organizing, launching and conducting an intensive pilot survey, we advise the full-time employment by the College of a vigorous and wise internist with qualifications and experience like those of a retired dean or head of a department of Medicine in a medical school. He would work as a member of the staff of the Joint Commission, administering the program as developed by the Committee and approved by the Regents. Like the others who will be proposed to work in the pilot group, he, as its Director, would also serve in the field to gain experience. The project would begin as soon as he and his financial support became available. Presumably later he would direct a long range evaluation program for all hospitals, based on the results of the pilot survey, if successful.



comparative premiums for the Professional Liability Insurance, showing ACP rates and so-called manual rates, which revealed lower premiums to the ACP in almost every single instance.

Subsequent discussion of Dr. Chaney's report brought out the following points:

- (1) The carriers are all delighted with the favorable loss ratio on the ACP Plans;
- (2) The carriers will consider increasing benefits or decreasing premiums if the favorable experience continues;
- (3) The Health and Accident carriers have already made available ten years' coverage, instead of five, which would make benefits available to members up to 75 years of age;
- (4) In eastern New York beds in public hospitals are being used on an experimental basis and physicians have been advised to take out maximal protection, because doctors working therein might personally be liable;
- (5) One member felt that in view of the favorable loss experience, the College is entitled to even greater increased benefits than have been offered or suggested; a member of the Board, who had been disabled, had received higher benefits and more prompt service from the ACP Plan than the Michigan State Medical Society's Plan;
- (6) Members of the College who use x-ray to any marked degree are required to pay a somewhat higher premium for coverage.

At this point, Dr. Chaney, as Chairman of the American College of Physicians' Committee on Voluntary Prepaid Insurance, discussed progress made by the Committee and distributed the following resolution, which, by formal action, was unanimously approved:

WHEREAS, the American College of Physicians is of the opinion that internists should be recognized as specialists, and, therefore, entitled to compensation commensurate with their training and capability, and

WHEREAS, the services of the internist are frequently essential in the best interests of the patient, and

WHEREAS, the insurance companies have not had the benefit of counsel with committees selected by internist groups to advise on matters of suitable coverage and adequate fees, and

WHEREAS, insurance protection for medical illness needs to be considered of equal importance to coverage for surgical illness,

THEREFORE BE IT RESOLVED, that the Board of Regents of the American College of Physicians appoint a standing committee to be known as the Committee on Voluntary Prepaid Health Insurance, that the American College of Physicians recommends that insurance companies offering such insurance recognize the necessity and value of the services of the internist and invite internist groups on a state or regional level to appoint representatives to make recommendations regarding adequate compensation to the internist, these recommendations to be accepted on the same basis as those of the general practitioners and specialty groups.

Dr. A. B. Brower, Chairman of the Committee on Finance, distributed copies of the Auditor's Report for 1954 and then made significant comparisons among the years 1952, 1953 and 1954. The Committee had reviewed all security transactions that had taken place since the last meeting of the Board and submitted for record and approval the action of the Finance Committee. Dr. Brower's report revealed that the present market value of the College securities amounted to \$1,513,442.00, against a book value (cost) of \$1,123,879.56, with an appreciation of \$389,562.44.



A rough estimate of volume and costs indicates that 6,000 hospitals in the country could be studied by methods such as those used in the pilot study by 150 consultants in four years, each working ten days per year and spending one day at each hospital. At the honorarium and travel expense rate used in the pilot study the annual cost would be about \$120,000.00, including the Director, but not including the American College of Physicians' share of the Joint Commission's general budget. Suitable quantitative modification could be made if this cost proved to be prohibitive, but with similar sacrifice of intensity or completeness of evaluation."

By resolution the Secretary was directed to send a copy of this report to all members of the Board of Regents, to the Residency Review Committee, to the Association of American Medical Colleges and to the Council on Medical Education and Hospitals of the American Medical Association.

Dr. William D. Stroud, Chairman, presented a detailed report for the House Committee, and growing out of his recommendations, an appropriation of \$2,500.00 was made to provide a parking area in the rear of the College property for the use of the College.

A letter was read from the President of the Royal Australasian College of Physicians particularly inviting the President-Elect of the American College of Physicians, Dr. George F. Strong, to come to Australia and New Zealand for the 1956 Annual Meeting of that College, particularly to further co-operation between the two Colleges. Dr. Richard A. Kern, Secretary-General, then reported he had visited Australia and New Zealand in February of 1955 at the invitation of the Postgraduate Committee of Medicine of the University of Sydney, and while in those countries had contacted representatives of the Royal Australasian College of Physicians and had discussed with them three major topics—exchange of official visitations at certain College functions; a visit by the President of the College to their 1956 Annual Meeting and the possibility of improving postgraduate training opportunities between those countries and the United States. From the standpoint of official visitations, the Royal Australasian College was eager to have such an exchange, but in view of its small membership and restricted finances, they are not yet in position to meet half the cost of the expenses of such visits, yet they would make every effort to extend such hospitality as they could and might be able to cover some expenses of our representatives while within those commonwealths. They had expressed the hope that some philanthropic individual might help underwrite such a program. They had particularly stressed the frequency of visits, feeling that visits could be at regular intervals to assure continuity, it being feasible to have an A.C.P. representative to visit them one year and an R.A.C.P. visit America the next year.

A resolution was adopted authorizing the new President, Dr. George F. Strong, to attend the Hawaii Regional Meeting in the spring of 1956 and then to proceed to Australia to attend the meetings of the Royal Australasian College of Physicians, and appropriating an adequate amount, up to \$1,500.00, to cover his travel expenses.

Dr. William C. Chaney, Chairman of the Committee on Insurance, reported on the Group Insurance Plans of the College, as follows: Health and Accident Plan, effective since April 15, 1953; Certificates in force, 3,645; Claims paid, 744; total benefits paid, \$312,108.17; loss ratio, 31.2% (the insurance companies consider a loss ratio not exceeding 60% satisfactory). Dread Disease Plan, effective since June 15, 1954; Certificates in force, 1,298; number of Claims, 12; total benefits paid, \$3,697.00, the largest amount to date, \$1,051.00 for a case of poliomyelitis. Professional Liability Plan, effective since January 1, 1954; Certificates in force, 1,354; number of Claims, 18; total amount paid in settlements, \$5,030.00 (one of these for \$5,000.00).

Dr. Chaney expressed entire satisfaction with all the plans, particularly because claims have been so small in number in comparison with insurance plans covering surgeons, radiologists and even general practitioners. He distributed tabulation of

Current yield for the year 1954, 4%. He presented, with the approval of the Committee, recommendations of the Investment Counselor, Drexel & Co., for the investment of available funds, and recommended the transfer of certain funds on deposit with the Provident Trust Company to an interest bearing account. He recommended further that Mrs. Marguerite L. Westfall, an Editorial Assistant in the Editor's Office, be included in the A.C.P. Pension Plan, and an appropriation of \$600.00 be made for the current year to cover the cost thereof. He discussed possibilities for a joint Social Security-Pension Plan for College employees, but recommended further study and deferred action. He recommended an appropriation of \$100.00 as an annual donation to the National Society for Medical Research. He recommended that the Regents themselves take separate action on a suggestion that the President's traveling expense account be increased from \$25.00 to \$50.00 per day while on official College business.

By resolution all recommendations of the Committee on Finance were approved, and the report as a whole was accepted.

After discussion by the Board of Regents, a resolution was adopted providing that the travel expenses of the President while on official College business in the United States or Canada, exclusive of fares, be increased from \$25.00 to \$50.00 per day, and that necessary appropriation be made therefor.

It was the consensus of the Board that an Officer, Regent or Guest Speaker, traveling on College business, shall be expected to get to the destination and back with reasonable speed, and that the Executive Secretary shall be justified in questioning accounts not in accordance with this policy.

Dr. George Morris Piersol, Chairman of the Committee on Technical Exhibits, reported the Committee's continued policy of critically evaluating material submitted for advertising in the journal or for exhibition at the Annual Sessions. The Committee had inspected all exhibits and had been impressed by their acceptable standards. Fringe exhibits have been eliminated and the cooperation of all exhibitors obtained.

Dr. William D. Stroud, Chairman, reported progress by the Committee on Revolving Residency Loan Fund and that the Committee was about to launch the program. President Sturgis had been authorized to negotiate with a foundation in an effort to influence them to match the funds set aside for this project by the College. It was suggested that the loan fund might be available to research assistants, residents, junior instructors and/or fellows, and that applications for residency loans could be made by the candidate while still an intern. Loans may be available to young men in any of the various fields of medicine which are included within the membership of the College.

Dr. Maurice C. Pincoffs, Editor of the *ANNALS OF INTERNAL MEDICINE*, reported steps were being taken to get the journal out at an earlier date, this to be accomplished by supplying copy to the printers a month earlier than at present. He reported the initiation on July 1, 1955, of the publication of an abstract in *Interlingua* at the end of each formal article. He further reported marked progress in the preparation of the Cumulative Index of the journal.

Dr. Walter L. Palmer, Chairman of the Editorial Board, presented in his report the following points:

- (1) A recommendation that the courtesy subscription rate of \$7.00 now offered to interns and residents be extended to bona fide fellows in training;
- (2) That complimentary subscriptions to certain European centers on behalf of CARE be continued, with the addition of a similar subscription to the Chinese Nationalist Forces on Formosa;
- (3) That a recommendation by the Editor that Mrs. Marguerite L. Westfall and Mrs. Sara C. Goodwin be given the title of "Editorial Assistants";

- (4) The Editor had reported that while the number of manuscripts received each year has varied, there has been a progressive increase—in 1940, 296; a recession in 1944, 176; 1954, 430.
- (5) Interval between receipt of a manuscript and its acceptance or rejection has averaged between .5 and 3.5 months—average, 2 months; regarding number of offered manuscripts published, in 1950, 43%, in 1954, 58%. The interval between receipt and publication of a manuscript averages 6 to 9 months; case reports, 8 to 12 months;
- (6) Circulation of the *ANNALS* has continued to grow, being approximately 19,000 at present;
- (7) Increased cost of publication of the *ANNALS*, because of change to 55 lb. coated stock, has not been as great as originally anticipated;
- (8) The Board recorded its enthusiastic approval of the conduct of the editorial aspects of the *Journal* by Dr. Pincoffs and his staff, and of the business and advertising aspects by Mr. Loveland and Mr. Shanbacker.

By resolution the Regents extended the courtesy subscription rate of \$7.00 to fellows in training.

Dr. Walter L. Palmer reported for the American Board of Internal Medicine. He pointed out that over 9,000 men had been certified up to the end of 1954, that Dr. Franklin M. Hanger, of New York City, had been appointed to fill out the unexpired term, to June 30, 1955, of Dr. Ray F. Farquharson, resigned. A slate of nominees was presented to the Board of Regents for approval, for the filling of vacancies from the American College of Physicians' representation, beginning July 1, 1955.

Dr. Carter Smith, Chairman of the Board of Governors, proposed that the Service Certificate of the College be issued at the discretion of the Board of Regents to others than past Officers, past Regents and past Governors, such as men serving on important committees, on the American Board of Internal Medicine, etc. No formal action was taken on this recommendation. Dr. Smith also announced the objective of appointing a special Executive Committee of the Board of Governors, composed of the past Chairman and a few others, for the purpose of planning future projects for that Board.

President-Elect Strong suggested the appointment of a committee to assist the Historian, Dr. George Morris Piersol, in the publication of a new *History of the College*.

Adjournment.

Attest: E. R. LOVELAND,  
Secretary

## REPORT OF THE BOARD OF REGENTS

PHILADELPHIA, PA.

APRIL 29, 1955

The third and concluding meeting of the Board of Regents, during the 36th Annual Session, convened on April 29, 1955, at 9:00 A.M., at Philadelphia, Dr. George F. Strong, new President, presiding and Mr. E. R. Loveland acting as Secretary.

This was the organization meeting of the new Board of Regents, and in addition to the new Officers there were in attendance 12 Regents and the General Chairman of the 1956 Annual Session. The chief order of business was the appointment or election of an Executive Committee and of the numerous standing and temporary Committees, personnel of which have already been published in this journal.

The Board, by resolution, approved of a slate of nominations from which the American Board of Internal Medicine shall choose two appointees to represent the American College of Physicians, one to succeed Dr. Walter L. Palmer, of Chicago, whose maximal term would expire on June 30, 1955, and the other to formally succeed Dr. Ray F. Farquharson, resigned. (The two later selected were Dr. Wright Adams, Chicago, and Dr. Franklin M. Hanger, New York, formally reelected.)

By resolution the Board of Regents specified that the dues of members who are full-time teachers, research workers, in institutions not subject to profit, members of the Medical Corps of the Air Force, Army, Navy, Public Health Service and Veterans Administration shall be \$15.00 per annum, beginning January 1, 1956.

Dr. George C. Griffith, General Chairman of the 37th Annual Session, Los Angeles, Calif., reported that Committees had been appointed and are at work. The final program will essentially be completed by September 15, 1955; adequate housing and transportation have been assured; new and more effective techniques of operation are being initiated. He discussed program and arrangement plans in detail.

After the most careful consideration of facilities and advantages, Boston was unanimously selected as the site of the 1957 Annual Session; the date of April 8-12 was selected, and Dr. Richard P. Stetson, College Governor for Massachusetts, was appointed General Chairman.

Adjournment.

Attest: E. R. LOVELAND,  
*Secretary*

## REPORT OF THE BOARD OF GOVERNORS

PHILADELPHIA, PA.

APRIL 26, 1955

A meeting of the Board of Governors of the American College of Physicians was held at Philadelphia, Pa., April 26, 1955, with Dr. Carter Smith, Chairman, presiding and Mr. Edward R. Loveland acting as Secretary. 64 Governors or their Alternates were in attendance.

The meeting was addressed by President Cyrus C. Sturgis, by President-Elect George F. Strong and 1956 General Chairman George C. Griffith.

The Secretary distributed to all members a calendar of Regional Meetings held during the year 1954 and already scheduled to the current date. Governors were urged to plan their Regional Meetings long in advance, to avoid conflicting dates and to select Guest Speakers adequately in advance.

For the Committee on Educational Policy, the Secretary distributed to each Governor five questionnaires prepared for the purpose of evaluating among members from each state the current program of the Annual Session. Governors were requested to distribute the questionnaires among five members from their states or territories, the forms to be returned to the Governor or to the Executive Offices for analysis, their summarization and the results to be referred to the Committee on Educational Policy, to the President, to the General Chairman and others concerned with the next Annual Session program.

The Secretary also distributed to the Governors copies of the periodic check-up questionnaires for Associates, the forms having been previously approved by the Board of Governors and by the Board of Regents. The Executive Offices had initiated their distribution in ten states during the past year, with generally satisfactory results, and will distribute them throughout the other states during the current year, after consultation with each Governor for such evaluations or selections of candidates as he may approve. These periodic check-up forms are intended not only to encourage Associates to complete their qualifications for Fellowship, but to keep the Governor informed of such progress as each Associate may be making.

Dr. William C. Chaney, Chairman of the Regents' Committee on Group Insurance Plans, repeated his previous report to the Board of Regents and is not herein reprinted.

He continued to report also on the work of the Regents' Committee on Prepaid Health Insurance Plans, stating that the Committee had done a great deal of work over the past year and has endeavored to take a common sense attitude toward voluntary prepaid medical insurance and to analyze what effect it has on the College members. He read the resolution which was to be submitted to the Board of Regents, said resolution appearing in the Minutes of the Board of Regents of April 27, 1955.

Dr. Leslie R. Kober, Governor for Arizona, and Dr. George H. Anderson, Governor for Washington, reported the organization of an Arizona Society of Internal Medicine and a Washington Society of Internal Medicine, respectively, purposes of which are to deal with voluntary prepaid insurance plans.

Dr. Thomas M. McMillan, Chairman of the Governors' Committee on Post-graduate Courses, made a detailed report on the objectives and accomplishments of that Committee, reported that over 1,400 physicians had registered for such courses in the past year and presented the proposed schedule of courses for the autumn of 1955 and the spring of 1956.

By resolution unanimously adopted, the current Committee on Postgraduate Courses was reappointed, to wit:

Thomas M. McMillan, Philadelphia, Pa., Chairman  
 Irving S. Wright, New York, N. Y., Vice Chairman  
 Charles M. Caravati, Richmond, Va.  
 Rudolph H. Kampmeier, Nashville, Tenn.  
 Stacy R. Mettier, San Francisco, Calif.

Dr. Ellsworth L. Amidon was reappointed to the Committee on Credentials, for term expiring in 1958.

Chairman Smith expressed deep appreciation to members of the Board whose terms expired at this meeting, namely,

Leland Hawkins .....	Southern CALIFORNIA
Joseph D. McCarthy .....	NEBRASKA
Edward C. Reifenstein, Sr. ....	Western NEW YORK
Wann Langston .....	OKLAHOMA

and to Dr. C. Howard Marcy, Western PENNSYLVANIA, who had resigned.

Chairman Smith then distributed for examination a specimen of the Certificate of "Term of Service," which had been devised for past Governors, past Officers and past Regents, and which already had been issued to those no longer holding office.

The Chairman then opened the meeting for discussion of general problems. Dr. Richard P. Stetson, Governor for Massachusetts, discussed the problem of encouraging Associates to qualify for Fellowship and the extension of interest in College membership among younger men of appropriate caliber, particularly in the academic field. Dr. Paul H. Revercomb, Governor for West Virginia, discussed the difficulty in getting Associates to make original contributions in the way of publications or theses. There followed general discussion of the use of the word "thesis." It is an academic term often misunderstood by the Associate, and it was suggested that the designation be changed to a "report on some subject to which he (the Associate) has devoted personal study and observation." It was emphasized that a research thesis is not required by the Committee on Credentials, but purely an adequate write-up on some purely clinical subject in the case of Associates who are removed from academic centers and engaged purely in practice.

Dr. Howard Wakefield, Governor for Northern Illinois, stated that in that territory they emphasize a wider front than just writing an article; they attempt to evaluate the Associate's progress and growth as a whole, to obtain objective evidence in what ways he has grown in the past year; they take into consideration Postgraduate Courses, hospital appointments, advancements, civic contributions, meetings attended, talks given and work done in teaching.

Dr. Charles A. Doan, Governor for Ohio, again spoke in favor of making Associates permanent members of the College.

Dr. William C. Menninger, Governor for Kansas, stated that in that state the two Fellows who propose a candidate for Associateship are asked to continue as sponsors until he becomes a Fellow, and that they suggest and supervise his program of preparation.

Dr. Leland Hawkins, Governor for Southern California, endorsed heartily Dr. Menninger's recommendations and emphasized his own belief that it is beneficial to have double screening for the admission of members, first for Associateship and then later for advancement to Fellowship.

Dr. Charles M. Caravati, Governor for Virginia, proposed that the Executive Offices of the College inform proposer and seconder that it will be their responsibility to watch over the Associate's growth and to aid him in his preparation for advancement to Fellowship.



A resolution was adopted, authorizing the appointment of an Executive Committee of the Board of Governors, to work on the problem of membership and other special problems of the Board of Governors. Chairman Smith appointed:

William C. Menninger, Chairman, Topeka, Kans.

Charles A. Doan, Columbus, Ohio

Irving S. Wright, New York, N. Y.

Richard P. Stetson, Boston, Mass.

Theodore C. Bauerlein, Salt Lake City, Utah

Dr. Charles M. Caravati proposed that the special Service Certificates should not be restricted to past Officers, past Regents and past Governors, but extended to cover members of important Committees, examiners on the American Board of Internal Medicine and others who have given service to the College, perhaps with little recognition. It was suggested that the wording of the Certificate could readily be changed to "In grateful appreciation of their services in the following capacities."

A motion was adopted, directing the Chairman to assign this matter to a Committee, which shall bring in a specific resolution next year.

Adjournment.

Attest: E. R. LOVELAND,  
*Secretary*

## OBITUARIES

## DR. HANS HANSEN

Dr. Hans Hansen, F.A.C.P., who retired in 1948 after long service as a psychiatrist and hospital administrator in the Veterans Administration, died Feb. 22, 1955, in Logan, Iowa.

Dr. Hansen was born March 24, 1878, in Denmark, where he received his elementary schooling. In 1900 he received the degree of Ph.B. from Highland Park College, Des Moines, Iowa, and in 1905 he received his M.D. degree from Creighton University School of Medicine. Following two years of internship in the Chicago Polyclinic Hospital, in St. Joseph's Hospital, Omaha, and in St. Bernard's Hospital, Council Bluffs, he commenced private practice in 1907 in Logan. In June, 1917 he entered on active duty in the Medical Corps of the Army, serving in various grades from Captain to Lieutenant Colonel until separation in August, 1919. For more than a year, he had duty overseas with the 88th Division in the capacity of Division Surgeon. Following the war, he held appointment for many years as Colonel in the Medical Reserve of the Army.

Upon his return from France, Dr. Hansen resumed private practice in Logan. On Jan. 13, 1923, he accepted appointment in the Veterans Bureau. After a short detail at St. Elizabeth's Hospital, Washington, D. C., he was assigned to duty at the Veterans Administration Facility, Bronx, N. Y. In August, 1924 he was transferred to the Veterans Hospital in St. Cloud, Minn., where he served as Chief Medical Officer and Manager for eleven years. On May 16, 1935, he was assigned to the Veterans Administration Hospital, Canandaigua, N. Y., where he served as Manager until his retirement, April 1, 1948. Thereafter he again made his home in Logan, Iowa.

Dr. Hansen was a member of the Harrison County (Iowa) Medical Society, in which he had held office as Secretary and as President. He was also a member of the American Psychiatric Association and the Association of Military Surgeons of the United States. He had been a Fellow of the American College of Physicians since 1931. Dr. Hansen received certification in psychiatry by the American Board of Psychiatry and Neurology in 1947.

Dr. Hansen was an extremely able psychiatrist and administrator with a long record of able service to the veterans of the Nation. His loss will be keenly felt by a host of friends.

WILLIAM S. MIDDLETON, M.D., M.A.C.P.,  
Chief Medical Director,  
Governor for the Veterans Administration

## DR. LAURENCE E. HINES

Dr. Laurence Edward Hines, F.A.C.P., of Chicago, died May 13, 1955. Dr. Hines was born in Livermore, Iowa, June 8, 1896. He was a student at Creighton College, Omaha, Nebr., for two years and received his M.D. degree from Northwestern University Medical School in 1920.

He was an interne at Michael Reese Hospital, Chicago, and served as Resident Physician at Cook County Hospital from 1920-21. At the John McCormick Institute for Infectious Diseases, he was a Research Associate, 1921-24. Dr. Hines was Director of the Laboratory of Pathology at St. Joseph Hospital from 1922-50 and had been Chairman of the Department of Medicine at the same institution since 1931. In 1934 he was President of the Attending Staff at St. Joseph Hospital.

At one time he was Attending Physician at Cook County Hospital and since 1950 he had been Attending Physician at Passavant Memorial Hospital. He was also a Consulting Physician to the U. S. Marine Hospital in Chicago.

A Fellow of the American College of Physicians since 1935, Dr. Hines was a member of the American Medical Association, the Chicago Medical Society, and the Illinois State Medical Society. He was a Diplomate of the American Board of Internal Medicine, a member of the Chicago Society of Internal Medicine, the Institute of Medicine of Chicago, and Sigma Xi.

Dr. Hines was Professor of Medicine at Northwestern University Medical School and was an energetic and enthusiastic teacher of physical diagnosis. He was interested in diseases of the kidney and in hypertension and wrote rather frequently on these subjects. He was a regular attendant at medical meetings, both local and national.

Dr. Hines is survived by his widow, Dorys, 5322 N. Lakewood Ave., Chicago 40, and six children—five sons and one daughter. He leaves a devoted and loyal host of friends and patients.

HOWARD WAKEFIELD, M.D., F.A.C.P.,  
Governor for Northern Illinois

#### DR. HAROLD H. JONES, SR.

Dr. Harold Houston Jones, Sr., a Fellow of the College since 1924, a Governor for Kansas from 1941-46, a Regent from 1946-55, died at his home in Winfield, Kans., on May 29, 1955.

Dr. Jones was born in Velie, Iowa, in 1891. He graduated from the Washington University School of Medicine in 1915. His first appointment was as Pathologist at St. Mary's Hospital in 1916, where, at the time of his death, he was Senior Physician. He held many appointments, including Lecturer in the Graduate School of the University of Kansas, Director of Research at the H. L. Snyder Memorial Research Foundation, member of the Medical Advisory Board of the National Multiple Sclerosis Society, Vice President of the Kansas Medical Society. He was a member of numerous organizations, including The American Trudeau Society, the American Medical Association, the American Heart Association, and was a Diplomate of the American Board of Internal Medicine.

Harold Jones was a remarkable man in many ways. Even though he practiced in a small Kansas town, he had established for himself a national reputation in the field of internal medicine. He was the first Kansan ever to be a member of the Board of Regents of the American College of Physicians. Although in private practice, he was always involved in research. He became known as a national authority in certain aspects of multiple sclerosis.

To those of us who knew him so well in his native state of Kansas, Dr. Jones was regarded with deep affection and unusual respect. He served as the Governor of the American College of Physicians for the State of Kansas from 1941-46. He was one of the original organizers of regional meetings of members of the College, beginning such meetings in the early 1930's, and he further devoted his time and efforts to the College as one of the original members of the Committee on Insurance. He was an unusual physician in his social consciousness, too, participating actively in many community activities. He was a mainstay in his guidance and consultation work at the Winfield State Training School, the state school for mental deficiency located in his community. He was a devoted husband to his wife, Madeleine, who survives him at 1322 E. 8th St. His son, Harold H. Jones, Jr., M.D., is now practicing in Ponca City, Okla.

In the passing of Harold Jones, Kansas has lost a leading citizen, an unusual and outstanding leader in medicine, and one of its few internists who, by his accomplishments, had achieved a national reputation.

WILLIAM C. MENNINGER, M.D., F.A.C.P.,  
Governor for Kansas

#### DR. FLORIMOND J. LE BLANC

Dr. Florimond Joseph Le Blanc (Associate), of Elgin, Ill., died March 7, 1955, of carcinoma of the gall bladder.

Dr. Le Blanc, a French Canadian, was born in St. Pie de Bagot, Province of Quebec, Canada, May, 1884. He attended Laval University, Montreal, where he received a Bachelor of Law degree.

He came to Chicago in 1907, where he attended Loyola University School of Medicine and received his M.D. degree in 1912. He was naturalized in 1920. At various times he practiced medicine at De Kalb and Elgin, Ill. In Elgin he was a staff member of St. Joseph and Sherman Hospitals.

Dr. Le Blanc was a member of the Illinois State Medical Society and the American Medical Association. He was one of the founders of the McDonagh Society for Clinical Research and was an occasional contributor to medical journals.

Dr. Le Blanc was one of the permanent Associates of the College, having become a member in 1926 through the American Congress on Internal Medicine. He was active in Masonic circles and was 32nd Degree and Knight Templar.

His friends, patients and colleagues note with deep regret Dr. Le Blanc's death.

HOWARD WAKEFIELD, M.D., F.A.C.P.,  
Governor for Northern Illinois

#### DR. GORDON W. RALEIGH

Dr. Gordon Woodrow Raleigh, F.A.C.P., died suddenly April 13, 1955, in his laboratory at the Evanston (Ill.) Hospital.

Dr. Raleigh was born in Salt Lake City, Utah, May 18, 1913. He attended the University of Utah, where he was granted an A.B. degree in 1936. He attended Northwestern University Medical School and obtained an M.B. degree, Cum Laude, in 1941, an M.D. degree in 1942 and a M.S. degree in pathology in 1947.

From 1941-42 he was an intern at Evanston Hospital. He became a Resident in Pathology, 1942-43, and a Resident in Medicine in 1947—all at the same institution. In World War II he served overseas for 26 months as a First Lieutenant in the U. S. Army and was discharged with the rank of Major.

On his return to the Attending Staff of Evanston Hospital, he was Assistant Attending Physician and also an Associate in Medicine at Northwestern University Medical School. At the time of his death, Dr. Raleigh was Chairman of the Committee on Graduate Education at both institutions and Assistant Professor of Medicine at Northwestern University's Graduate School.

While stationed in England, he was elected a Fellow of the Royal Society of Medicine, London. He had been a Fellow of the American College of Physicians since 1953. He was also a member of the American Medical Association, the American Heart Association, The Endocrine Society, the Chicago and Illinois State Medical Societies. He was a Fellow of the Institute of Medicine of Chicago and a member of the Chicago Society of Internal Medicine, Alpha Omega Alpha and the Society of Sigma Xi, as well as a Diplomate of the American Board of Internal Medicine.

Dr. Raleigh was an unusual man with many talents. He had all the attributes of great leadership—courage, integrity, and independence. He was always interested in clinical investigation, and he was a fine teacher and an able practitioner of internal medicine. He was always held in the highest esteem by his colleagues, his friends, and his patients. He also demonstrated great ability in organizational work. He will be sorely missed by all who knew him.

He is survived by his wife, Gladys B. Raleigh, 2707 Asbury Ave., Evanston, Ill.

HOWARD WAKEFIELD, M.D., F.A.C.P.,  
Governor for Northern Illinois

#### DR. WILLIAM H. ROSS

Dr. William Hugh Ross, F.A.C.P., of Brentwood, N. Y., was born on Aug. 14, 1862, and died on May 9, 1955, from a coronary occlusion.

Dr. Ross attended State Normal School in Genesee, N. Y., and received his M.D. degree from Columbia University College of Physicians and Surgeons in 1888. He interned at Presbyterian Hospital from 1888-90. He was Consulting Physician at the Pilgrim (Central Islip) State Hospital in Brentwood from 1906-49. He became Attending Physician of the Southside Hospital in Bay Shore in 1923, President of the Medical Board from 1923-28 and was a member of the Medical Staff. Dr. Ross was former Vice President and President of the Board of Managers at the Suffolk Sanatorium, Holtsville, with which he had been affiliated since 1916. For many years, beginning in 1928, he was President of the Suffolk County Board of Health; he retired on June 1, 1949.

He was President (1930-31) and later Trustee of the Medical Society of the State of New York, President of the Suffolk County Tuberculosis and Public Health Association from 1918-32, President of the Suffolk County Medical Society from 1903-05, and President of the Associated Physicians of Long Island in 1908. Dr. Ross was a Fellow of the New York Academy of Medicine. He was a member of the American Medical, World Medical, and American Public Health Associations. He became a Fellow of the American College of Physicians in 1932.

It is with sorrow that his friends and confreres note his passing at this time. He is survived by his daughters, Mrs. Randall J. LeBoeuf, Jr., of Old Westbury, and Mrs. H. E. Chauvin, 140 E. 28th St., New York City.

IRVING S. WRIGHT, M.D., F.A.C.P.,  
Governor for Eastern New York

#### DR. ISADORE M. TRACE

Dr. Isadore Michael Trace, F.A.C.P., of Chicago, died May 4, 1955. He was born June 15, 1881, in Vilna, Russia, where he received his preparatory education. He came to the United States in 1900, was naturalized in 1905, and obtained his M.D. from Northwestern University Medical School in 1909.

Dr. Trace was a devoted teacher of undergraduate medical students. From 1911-14 he was Associate at Rush Medical College and for almost 25 years he was Professor of Clinical Medicine at Stritch School of Medicine of Loyola University. Since 1948 he had been Professor of Medicine at the Chicago Medical School.

Dr. Trace had been practicing internal medicine in Chicago since 1909, and from 1912-14 he was Attending Physician at the Chicago Winfield Sanitarium. Since 1918 he had been Senior Attending Physician at Mt. Sinai Hospital and at Cook

County Hospital. He was also Attending Physician at Columbus Hospital and Consulting Physician at Louis A. Weiss Memorial Hospital.

Besides his interest in general internal medicine, he was always a serious student of the heart and circulation and was a regular attendant at local and national medical meetings. Dr. Trace was a Diplomat of the American Board of Internal Medicine, a member of the Chicago Society of Internal Medicine, and the Institute of Medicine of Chicago. He was a member of the American Medical Association, the Chicago Medical Society, and the Illinois State Medical Society. Dr. Trace became a Fellow of the American College of Physicians in 1925, having been elected to the American Congress on Internal Medicine in 1922; he was a regular attendant at all College meetings. He was a kind, modest, and understanding gentleman. We will miss him.

HOWARD WAKEFIELD, M.D., F.A.C.P.,  
Governor for Northern Illinois

#### DR. EMIL WEISS

Dr. Emil Weiss, F.A.C.P., died in Chicago on June 2, 1955, after a long illness. He had been in ill health for several years.

Dr. Weiss was born in Sisak, Yugoslavia, Feb. 26, 1893. He received his M.D. degree from the University of Prague in 1919. He worked for his Ph.D. degree at the University of Illinois and received his Doctorate in Pathology in 1937.

Most of his professional life was spent in pathology. At Loyola University School of Medicine he held ranks in pathology and bacteriology, starting as Instructor in 1922 and becoming Professor from 1931-33. At various times he held teaching positions at the University of Illinois College of Medicine and Northwestern University Medical School.

In Chicago he served as Pathologist at St. Anne's, Holy Cross, and Martha Washington Hospitals. At one time he had service with the U. S. Public Health Service and the National Board of Medical Examiners. Dr. Weiss was the author of three books and more than fifty papers. He was a member of the local and national medical societies devoted to pathology. He had been a Fellow of the American College of Physicians since 1935.

Dr. Weiss is survived by his wife, Mrs. Shirley Weiss, Route 3, Box 191, Palatine, Ill. All his friends and colleagues mourn his death.

HOWARD WAKEFIELD, M.D., F.A.C.P.,  
Governor for Northern Illinois

#### DR. FRANCIS J. WELCH

Dr. Francis Joseph Welch, F.A.C.P., was born in Portland, Maine, in 1879, and died in the city of his birth on Feb. 10, 1955. He attended Bowdoin College, where he graduated with a degree of A.B. in the Class of 1903. He took his senior year in college as his first year in the Medical School of Maine (Bowdoin Medical School) and graduated from there in 1906, with the degree of M.D. He served his internship at the St. Barnabas Hospital in Portland and then took up the general practice of medicine in his home city. He had postgraduate training in Chicago, Rochester, Minn., Boston, and at Saranac Lake. He was Clinical Instructor in Pulmonary Disease in the Medical School of Maine from 1903 until 1913, Instructor from 1913 until 1918, and Assistant Professor from 1918 until 1921. In the year 1911, he founded



the Restland Sanatorium in East Parsonsfield, Maine, which he operated for 44 years as Medical Director.

Dr. Welch had been a Fellow of the American College of Physicians since 1929 and was also a Fellow of the American College of Chest Physicians. He was a member of the first postgraduate class of the Trudeau Clinic at Saranac Lake and an active member of the American Trudeau Society. He was a member of the Cumberland County Medical Society, the Maine Medical Association, and the American Medical Association. He was a member of the Portland Medical Club, of which he was President in 1952-53. He was a member of the staff of the Maine General Hospital and the Maine Eye and Ear Infirmary. He was President of the Medical Staff of the Mercy Hospital for many years, including the period of its foundation and enlargement. He was a member of Theta Delta Chi fraternity in college and of the Alpha Kappa Kappa fraternity in medical school.

Dr. Welch was an accomplished musician. He served for a long period of time as Concert Master of the Maine Music Festival.

For several years Dr. Welch was in failing health, but he faithfully and conscientiously attended to a large practice. His unfailing cheerfulness was an inspiration to all who knew him. His continued active participation in the work of the local tuberculosis clinic to the very end of his life was an excellent example and a stimulus to all his younger associates. He was a rare combination of competent specialist and family physician to many. In his death his community has lost a really outstanding man.

RICHARD S. HAWKES, M.D., F.A.C.P.,  
Governor for Maine

#### DR. JACOB WERNE

Dr. Jacob Werne, F.A.C.P., of Jamaica, N. Y., died on April 14, 1955.

Dr. Werne was born in New York City on Sept. 5, 1905. He received his B.S. degree from Southern Methodist University in 1922 and his M.D. degree from Baylor University College of Medicine in 1926. He then served an internship and residency at the New York City Hospital, 1926-29. He was Associate Clinical Professor of Pathology at New York Medical College, Flower and Fifth Avenue Hospitals from 1947-55, Associate Pathologist (1929-38) and Director of Laboratory (1938-55) at St. John's Long Island City Hospital. Dr. Werne was also Director of Laboratory at the Rockaway Beach Hospital, 1936-55, Flushing Hospital and Dispensary, 1937-55, and Boulevard Hospital, 1938-55. He had been Consultant Pathologist at the Jamaica Hospital and River Crest Sanitarium since 1947, and had also been Assistant Medical Examiner in the office of the Chief Medical Examiner (Queens) since 1931. He was a Lieutenant Colonel, (MC), AUS, on active duty in research laboratories at the Army Chemical Center, Edgewood, Md., where he had been stationed since 1953.

Dr. Werne was a founding Fellow of the College of American Pathologists. He was President of the Queens County Medical Society in 1942 and President of its Board of Trustees in 1945. He was a member of the Board of Directors, New York City Cancer Committee, 1948-55, a Censor of the American Society of Clinical Pathologists, and a Fellow of the New York Academy of Sciences. Dr. Werne was a member of the New York Academy of Medicine, New York Pathological Society, New York Society for Medical Jurisprudence, New York State Association of Public

Health Laboratories, American Association of Pathologists and Bacteriologists, American Academy of Forensic Sciences, and the American Medical Association. He was a Licentiate of the National Board of Medical Examiners, a Diplomate of the American Board of Pathologists, and had been a Fellow of the American College of Physicians since 1939. He was the author of various articles dealing with infant deaths. He is survived by his wife, Irene Garrow, M.D., 82-53 164th St., Jamaica 32, N. Y.

It is with sorrow that Dr. Werne's friends and confreres note his death at this time.

IRVING S. WRIGHT, M.D., F.A.C.P.,  
Governor for Eastern New York

## COLLEGE NEWS NOTES

### NEW LIFE MEMBERS

It is a pleasure for the College to announce that Dr. Irving C. Shavelson, F.A.C.P., Atlantic City, N. J., and Dr. William A. Feirer, F.A.C.P., New York, N. Y., have recently become Life Members.

### GIFTS TO COLLEGE LIBRARY OF PUBLICATIONS BY MEMBERS

The College is indeed grateful to the following Fellows who have recently presented autographed copies of their works to the College Library of Publications by Members:

- Louis G. Welt, M.D., F.A.C.P., Chapel Hill, N. C.—*Clinical Disorders of Hydration and Acid-Base Equilibrium*.  
 C. J. Gentzkow, M.D., F.A.C.P., Philadelphia, Pa.—*Medical and Public Health Laboratory Methods*. Edited with James S. Simmons, M.D., F.A.C.P., (Deceased).  
 J. Scott Butterworth, M.D., F.A.C.P.—*Cardiac Auscultation Including Audio-Visual Principles* with Maurice R. Chassin, M.D., F.A.C.P., and Robert McGrath, M.D., F.A.C.P., all of New York City.

### A.C.P. REGIONAL MEETINGS

#### AUTUMN AND WINTER SCHEDULE

Territory	Place	Date	Governor in Charge
WEST VIRGINIA	White Sulphur Springs	Aug. 19	Paul H. Revercomb, M.D.
NORTH DAKOTA	Jamestown	Sept. 10	Robert B. Radl, M.D.
SOUTHEASTERN (Cuba, Fla., Ga., S. C. and Ala.)	Charleston, S. C.	Oct. 7-8	Robert Wilson, M.D.
MONTANA-WYOMING	Billings	Oct. 7-8	Harold W. Gregg, M.D.
WESTERN NEW YORK	Buffalo	Oct. 14	John H. Talbott, M.D.
MIDWEST (Ill., Ind., Iowa, Minn., Wis.)	Madison, Wis.	Oct. 15	Frederick W. Madison, M.D.
KENTUCKY-TENNESSEE	Louisville	Nov. 5	Sam A. Overstreet, M.D.
NEW JERSEY	Newark	Nov. 9	Edward C. Klein, Jr., M.D.
WESTERN PENNSYLVANIA	Pittsburgh	Nov. 10	Frank J. Gregg, M.D.
OHIO	Cincinnati	Nov. 17	Charles A. Doan, M.D.
MARYLAND—DIST. OF COLUMBIA	Baltimore	Nov. 19	R. Carmichael Tilghman, M.D.
PACIFIC NORTHWEST (Idaho, Ore., Wash., B. C.)	Vancouver, B. C.	Nov. 19	H. A. Des Brisay, M.D.
ARKANSAS-OKLAHOMA	Hot Springs, Ark.	Dec. 3	A. A. Blair, M.D.
MICHIGAN	Detroit	Dec. 3	H. Marvin Pollard, M.D.
NORTH CAROLINA	Winston-Salem	Dec. 8	Elbert Persons, M.D.
LOUISIANA-MISSISSIPPI	Shreveport	Jan. 14	M. D. Hargrove, M.D.
EASTERN PENNSYLVANIA	Philadelphia	Jan. 20	Thomas M. McMillan, M.D.

## PRAIRIE PROVINCES

(Alta., Man., Sask.)

## ARIZONA

## KANSAS

Saskatoon, Sask.

Tucson

Kansas City

Feb. 3-4 C. H. A. Walton, M.D.

Feb. 11 Leslie R. Kober, M.D.

Mar. 23 W. C. Menninger, M.D.

Other Regional Meetings are in process of arrangement and will be announced in future issues of this journal.

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 NOVEMBER MEETING, A.C.P. BOARD OF REGENTS AND STANDING COMMITTEES

All standing Committees of the American College of Physicians will meet at the College Headquarters in Philadelphia on November 10-12, 1955, and the Board of Regents on November 12-13, 1955. The Committee on Credentials will meet on Thursday and Friday, with the other Committees convening on Friday.

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 NEW 1955 DIRECTORY OF THE COLLEGE

A new and revised Directory of the American College of Physicians has been in the course of publication for several months and is now at press. It is anticipated that it will be ready for distribution to those who have placed orders therefor before the end of the year.

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 A.C.P. GROUP INSURANCE PLANS

As of April 15, 1955, the Group Insurance Administrators were appointed agents for the College sponsored Group Insurance Plans. The office of this organization adjoins the College Headquarters, assuring members of more prompt and efficient service.

The new administrators wish to bring several important matters to the attention of A.C.P. members. (1) All correspondence should be addressed to Group Insurance Administrators, 404 S. 42nd St., Philadelphia, Pa. Some members have experienced delay because their correspondence was addressed to the former administrator's office. (2) Please notify Group Insurance Administrators immediately of any claim or possible claim under the Health and Accident, Professional Liability or Dread Disease Plans. At the time of notification, kindly give a brief summary as to condition of the claim. (3) New Certificates of Insurance are not issued on the renewal dates under the above mentioned coverage. Payment of renewal premium continues in force the present certificate and the cancelled check serves as a receipt. Receipts will be issued when specifically requested.

*Current status of the present College sponsored Plans.* The Health and Accident Plan, effective since April 15, 1953, has over 3,800 subscribers. This is about 63% of the eligible members. There have been over 800 disability claims; in excess of \$370,000.00 has been paid to College members. The Plan has worked efficiently and well, resulting in hosts of testimonial letters from those who have received benefits.

The Professional Liability Plan has been expanding satisfactorily and the service has been effective and prompt. Over 1,500 certificates of coverage have been issued and the number is increasing from month to month. The only eligibility requirement is membership in the College. Since the Plan was initiated in 1953, only 21 possible claims have been reported. Out of this number, only 4 have actually materialized, with total payments for settlement amounting to \$5,100.00. No physician should be without Professional Liability coverage.

The Dread Disease Plan has over 1,800 subscribers. Since the Plan was initiated benefits have been increased from \$5,000.00 to \$10,000.00 limits, and three additional diseases have been added for coverage, rabies, tularemia and typhoid fever. Members insured prior to June 15, 1955, will receive new certificates covering these increased benefits. On 12 claims registered, over \$4,200.00 has been paid out in benefits, one member alone receiving over \$1,500.00 on a poliomyelitis claim.

Participation of the members in increasing numbers redound to the benefit of all members insured. The larger the participation, the stronger will be the Plan and the better will be the prospects of obtaining even extended benefits over those now available.

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#### ARMY TO PAY HIGHER ENTRANCE RATES TO CIVILIAN PHYSICIANS

Authority from the Civil Service Commission has been received to employ civilian physicians at dispensaries, infirmaries, outpatient clinics and laboratories at the top step of each respective grade, according to Major General Silas B. Hays, F.A.C.P., The Surgeon General.

The new authority, which went into effect in August, allows the Army to employ civilian physicians at beginning salaries from \$7,465.00 per annum to \$11,395.00 per annum.

Although increasing numbers of civilian doctors are being employed in Army medical installations throughout the country, openings exist in practically every locality. As of June 30, according to General Hays, the Army was employing over 20 per cent more civilian physicians than it had six months earlier.

Those interested in securing employment with the Army, who have a license to practice medicine in any of the States or the District of Columbia, should get in touch with the personnel officer at their nearest Army installation or Army medical facility of their choice.

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#### WILLARD O. THOMPSON MEMORIAL TRAVELING SCHOLARSHIP ESTABLISHED

Following the death of Dr. Willard O. Thompson, F.A.C.P., a Committee, headed by Dr. LeRoy H. Sloan, F.A.C.P., Chicago, was formed for the raising of the Willard O. Thompson Memorial Traveling Scholarship Fund for the purpose of establishing a traveling scholarship in Endocrinology in memory of Dr. Thompson. The scholarship is to be administered by the Committee on Fellowships and Scholarships of the American College of Physicians and has as its purpose "to provide an opportunity for a worthy young physician, preferably an Associate of the College, to spend a month, more or less, as a visiting fellow at some institution, or institutions, for observation and postgraduate study, particularly in the field of Endocrinology, although not necessarily limited to that specialty."

The Fund shall be deposited with the American College of Physicians and shall be invested in substantially the same manner as other Endowment Funds of the College. No part of the principal or income may be used for the general purposes of the College, nor may such principal be invaded for the purposes of this gift, it being the donor's intent that the principal of this Fund shall remain intact and unimpaired as a source of income, for the accomplishment of the purposes of the gift.

Dr. Phebe Thompson, widow of the late Dr. Willard O. Thompson, made the initial gift of \$2,125.85, which represented a credit balance on a postgraduate course

directed by Dr. Willard O. Thompson for the College some time prior to his death. Personal contributions from about 150 physicians from various parts of the United States and Canada amounted to \$4,795.00. The American Geriatrics Society, the Schering Corporation of Bloomfield, N. J., and the Ayerst Laboratories of New York City each contributed \$1,000.00. Other institutional gifts amounted to \$460.00. The total fund now subscribed amounts to \$10,380.85; the original objective was \$10,000.00. Thus, this traveling scholarship becomes immediately available in 1956. Applications may be filed with the Executive Offices of the American College of Physicians.

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#### VAN METER PRIZE AWARD

The American Goiter Association again offers the Van Meter Prize Award of \$300.00 and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the Association to be held at the Drake Hotel, Chicago, May 3-5, 1956, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations, should not exceed 3,000 words in length and must be presented in English. Duplicate typewritten copies, double spaced, should be sent to the Secretary, Dr. John C. McClintock, 149½ Washington Ave., Albany, N. Y., not later than Jan. 1, 1956.

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#### AMERICAN DERMATOLOGICAL ASSOCIATION PRIZES

The American Dermatological Association has recently announced that it is again offering four cash awards for the best essays on original work that are relative to some fundamental aspect of dermatology or syphilology and that have not been previously published. Manuscripts must be submitted not later than Nov. 15, 1955, and are to be typed in English with double spacing, and should be accompanied by illustrations, charts and tables, all in triplicate. Further information may be obtained from J. Lamar Callaway, M.D., F.A.C.P., Secretary, American Dermatological Association, Duke Hospital, Durham, N. C.

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#### COMING EVENTS

The Ninth Connecticut Postgraduate Seminar in Psychiatry and Neurology began its series of lectures on Sept. 26 and will continue them through May 7, 1956. From Sept. 26 through Dec. 5 sessions in clinical neurology, neurooentogenology, electroencephalography, neuroanatomy, neurophysiology, and neuropathology are being held on Mondays and Wednesdays at Yale University School of Medicine, New Haven. Beginning Jan. 9 through March 5 sessions in general psychiatry will be held on Mondays at the Connecticut State Hospital, Middletown. From March 12 through April 16 a course in child psychiatry will be given, and from April 23 through May 7 there will be a course in pediatric neurology, both being held on Mondays at Yale University School of Medicine, New Haven. There are no fees for these courses and copies of the program may be obtained from the Office of the Assistant Dean for Postgraduate Medical Education, Yale University School of Medicine, 333 Cedar St., New Haven, Conn.

A three-day international symposium on "Enzymes: Units of Biological Structure and Function," sponsored by the Henry Ford Hospital and The Edsel B. Ford



Institute for Medical Research, will be held in the auditorium of the Hospital, Nov. 1-3, 1955. A copy of the preliminary announcement may be obtained from Dr. Clarence E. Rupe, Henry Ford Hospital, Detroit 2, Mich.

"Modern Considerations and Methods in Handling the Lead Problems in Industry" will be presented during the week of Nov. 7-11, 1955, by the Kettering Laboratory in the Department of Preventive Medicine and Industrial Health of the University of Cincinnati, another in its series of postgraduate courses. The purpose of this course is to present the most recent information concerning the prevention and control of the lead problem in modern industry. Application blanks may be obtained from the Secretary, Institute of Industrial Health, Kettering Laboratory, Eden and Bethesda Aves., Cincinnati 19, Ohio.

As part of the program of the American Association for the Advancement of Science, a symposium, "Physiological Bases in Psychiatry," will be held Dec. 27-28 at Atlanta, Ga. Further details may be obtained from Harold E. Himwich, M.D., F.A.C.P., Galesburg State Research Hospital, Galesburg, Ill.

Under the Chairmanship of Dr. George E. Burch, Jr., F.A.C.P., a short continuation course, "Fluid and Electrolyte Balance," sponsored by the Division of Graduate Medicine of Tulane University of Louisiana School of Medicine, will be held Jan. 16-21, 1956. Additional courses include "Pediatric Neurology," Dr. Ralph V. Platou, Chairman, Feb. 6-10, 1956, and "Industrial Medicine," Dr. Waldo L. Treuting, Chairman, April 12-13, 1956. Detailed information concerning these courses may be obtained from Director, Division of Graduate Medicine, 1430 Tulane Ave., New Orleans 12, La.

As reported last month, the American Psychosomatic Society will hold its 13th Annual Meeting at the Sheraton Plaza Hotel in Boston, March 24-25, 1956. The Program Committee will receive titles and abstracts of 20-minute papers for consideration for the program no later than Dec. 1. Abstracts should be submitted in sextuplicate to Stanley Cobb, M.D., Chairman, Program Committee, 551 Madison Ave., New York 22, N. Y.

The Sixth Congress of the International Society of Hematology will be held in Boston, Sept. 3-8, 1956, under the Presidency of Dr. William Dameshek, F.A.C.P., of Boston. Those wishing to present papers should send abstracts of 300 words or less in English, French, or Spanish. Selections of papers will be based on originality, interest, and scientific importance, and must be submitted by Feb. 1, 1956. Additional details may be obtained from: International Society of Hematology, New England Medical Center, Harrison Ave. at Bennet St., Boston 11, Mass.

Of possible interest to members of the College are the following medical meetings:

- Nov. 6-13—International Congress of Allergology, Rio de Janeiro, Brazil, S. A. Dr. Bernard N. Halpern, 197 Boulevard St. Germain, Paris 7e, France, Secretary General.
- Nov. 7-12—International General Medical Congress, University of Rosario Medical College, Rosario, Argentina, S. A. Dean Jose Imhoff, Santa Fe 3100, Rosario, Argentina, S. A., Chairman.
- Nov. 14-17—Southern Medical Association, Houston, Texas.
- Nov. 18-26—Venezuelan Congress of Medical Sciences, Caracas, Venezuela, S. A. Dr. A. L. Briceno Rossi, Apartado 4412, Ofic. del Este, Caracas, Venezuela, S. A., Secretary General.
- Nov. 19-21—American Association of Blood Banks, Palmer House, Chicago, Ill.
- Nov. 29-Dec. 2—American Medical Association, Clinical Session, Boston, Mass.

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- Mar. 15-17—Eastern Conference of Radiologists, Lord Baltimore Hotel, Baltimore, Md.
- June 17-23—International Congress of World Confederation for Physical Therapy, New York, N. Y. For information address: Miss Mildred Elson, American Physical Therapy Association, 1790 Broadway, New York 19, N. Y.
- July 22-27—International Congress of Paediatrics, Copenhagen, Denmark. Professor P. Plum, Rigshospitalet, Copenhagen, Denmark, President.
- July 22-28—Eighth International Congress of Radiology, Mexico City. For further information address the Congress Office at Calle del Oro 15, Mexico 7, D. F., Mexico.
- Aug. 20-24—International Congress of Physical Medicine, Copenhagen, Denmark. Dr. B. Strandberg, Kobenhavns amts sygehus i Gentofte, Dept. of Rheumatology and Physical Medicine, Hellerup, Denmark, Honorable Secretary.

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#### A.C.P. FILM COMMITTEE APPROVES NEW MEDICAL FILM

The Committee on Medical Educational Films, headed by Dr. Wallace M. Yater, F.A.C.P., has approved a new film, "Pitfalls in the Management of Refractory Heart Failure," produced by the Medical Film Guild, 506 W. 57th Street, New York 19, N. Y., at Georgetown University School of Medicine. The Chairman of the Committee participated actively in the preparation of the scenario, and the planning of the film.

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#### REPORT, UNITED STATES DELEGATION TO THE INTERNATIONAL CONFERENCE FOR THE SEVENTH REVISION OF THE INTER- NATIONAL LISTS OF DISEASES AND CAUSES OF DEATH

The Department of Health, Education and Welfare of the U. S. Public Health Service has recently issued an official report of the above conference held February 21-26, 1955, the purpose of the conference being to prepare a classification of causes of death for international use. This project had its origin in 1891 and has been carried forward with periodic revisions at approximately ten-year intervals. The recent conference was initiated by the WHO Center for the Classification of Diseases in London in 1954.

The report includes: Revision of the Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death; International Form of Medical Certificate of Cause of Death; Rules for Classification of Causes of Death; Special Lists for Tabulation of Mortality Statistics; Classification and Tabulation of Causes of Foetal Death; Classification and Presentation of Morbidity Statistics; Classification and Tabulation of Multiple Causes of Death; Definition of Morbidity Terms and Measurements; Adaptation of the International Statistical Classification to the Needs of the Armed Forces; Use of the International Statistical Classification as a Diagnostic Index; Relationships between Clinical and Autopsy Diagnoses, and Administrative suggestions for the future operation of the project. The World Health Organization is the chief supervising sponsor. Copies of the report may be obtained from the Department of Health, Education and Welfare, U. S. Public Health Service, Washington 25, D. C.

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Dr. John B. Alsever, F.A.C.P., Phoenix, Ariz., has been appointed the first full-time Medical Director for Southwest Blood Banks, Inc., and assumed his duties on July 13, 1955, after spending several weeks of study and observation at the National Institute of Health, Bethesda, Md.

The Southwest Blood Banks has branches not only in Phoenix, but in many other cities in the southwestern states, and as far east as Louisiana, Arkansas and Mississippi. Heretofore, Dr. Alsever was Medical Director of the U. S. Public Health Service in Washington and Director of the Blood Program Division, Health Services and Special Weapons Defense Office, Federal Civil Defense Administration. He is certified in both Internal Medicine and Cardiovascular Disease.

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Dr. Thomas C. Chalmers (Associate) has recently been appointed Chief of Medical Service at Lemuel Shattuck Hospital, Jamaica Plain, Mass. This new chronic disease hospital is supervised by the Deans of Boston University, Harvard and Tufts Medical Schools, and the Harvard School of Public Health.

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Dr. George F. Strong, President of the American College of Physicians, will be an official guest at the Annual Meeting of the Royal College of Physicians and Surgeons of Canada at Chateau Frontenac, Quebec City, P. Q., Oct. 21-22, 1955.

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Seven members of the College were among the guest speakers at the 33rd Annual Fall Clinical Conference of the Kansas City (Mo.) Southwest Clinical Society, held in the Municipal Auditorium early this month. Speakers and their topics included: Dr. William S. Middleton, M.A.C.P., Washington, D. C., Chief Medical Director of the Veterans Administration, "Zoonoses"; Dr. A. Carlton Ernestine, F.A.C.P., Cleveland, "Newer Therapeutic Tools in Cardiovascular Disease"; Dr. Fred W. Fitz, F.A.C.P., Chicago, "The Doctor and His Heart"; Dr. Edwin F. Hirsch, F.A.C.P., Chicago, "Variations of the Blood Lipids in Health and Disease"; Dr. Eugene P. Pendergrass, F.A.C.P., Philadelphia, "Some Considerations Concerning the Roentgen Diagnosis of Carcinoma of the Lung"; Dr. Edward H. Rynearson, F.A.C.P., Rochester, Minn., "Varieties of Diabetes"; and Dr. Stewart G. Wolf, Jr., F.A.C.P., Oklahoma City, "The Gastrointestinal Tract of the Aged."

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Among the guest speakers at the 20th Annual Meeting of the Mississippi Valley Medical Society were: Drs. Arthur C. Corcoran, F.A.C.P., Cleveland; George A. Hellmuth, F.A.C.P., Milwaukee, Wis.; and William C. Menninger, F.A.C.P., Topeka, Kans.

Immediately following the meeting, which was held in St. Louis, Sept. 28-30, the 12th Annual Meeting of the American Medical Writers' Association was held under the Presidency of Dr. Lee D. van Antwerp, F.A.C.P., Chicago. Speakers at this meeting included: Drs. Charles E. Lyght, F.A.C.P., Rahway, N. J.; Harold Swanberg, F.A.C.P., Quincy, Ill.; and Benjamin B. Wells, F.A.C.P., Omaha, Nebr.

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Dr. Maurice J. Small, F.A.C.P., East Orange, N. J., was the guest speaker at the meeting of the Puerto Rican Chapter of the American College of Chest Physicians in San Juan during the summer. He also served as Moderator at the Puerto Rico Tuberculosis Therapy Conference, sponsored by the Veterans Administration Center with the cooperation of the local Chapter of the American College of Chest Physicians and the Puerto Rico Department of Health. Dr. Small is Chief of the Tuberculosis Service at the Veterans Administration Hospital in East Orange.

Under the Presidency of Dr. Friedrich W. Niehaus, F.A.C.P., the 23rd Annual Assembly of the Omaha Mid-West Clinical Society is being held at the Hotel Paxton, Oct. 24-27. Among the out-of-state speakers are: Dr. Frank H. Bethell, F.A.C.P., Ann Arbor, Mich.; Dr. Harold D. Palmer, F.A.C.P., Denver; and Dr. J. Scott Butterworth, F.A.C.P., New York City. Omaha members of the College also participating in the program include: Drs. Frank R. Barta, Sr., F.A.C.P., M. H. Brodkey, F.A.C.P., Frederick G. Gillick, F.A.C.P., Robert L. Grissom, F.A.C.P., Henry J. Lehnhoff, Jr., F.A.C.P., Stephen L. Magiera (Associate), J. Harry Murphy, F.A.C.P., and Donald J. Wilson, F.A.C.P.

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Five members of the College contributed to the program of the Tennessee Valley Medical Assembly, held earlier this month in Chattanooga and sponsored by the Chattanooga and Hamilton County Medical Society. Fellows of the College and their topics included: Arthur C. Curtis, M.D., Ann Arbor, Mich., "Cutaneous Manifestations of Systemic Diseases"; Charles A. Doan, M.D., Columbus, Ohio, "The Diagnosis and Treatment of Acute Leukemic States"; Thomas J. Dry, M.D., Rochester, Minn., "Coronary Artery Disease"; Edgar Hull, M.D., New Orleans, "Emergency Use of Corticoids and Corticotropins," also "Manifestations and Treatment of Extra-intestinal Amebiasis"; and Sara Jordan, M.D., Boston, Mass., "The Irritable Colon."

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With Dr. William Kaufman (Associate), Bridgeport, Conn., as President, the Academy of Psychosomatic Medicine held its Second Annual Meeting, Oct. 6-8, in New York City. Among the speakers was Dr. M. Murray Peshkin, F.A.C.P., New York City, who discussed "Psychosomatic Aspects of Drugs in Allergy Practice."

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One of the outstanding lectures to be given during the American Heart Association's 31st Annual Meeting and 28th Scientific Sessions will be delivered by Dr. George E. Burch, Jr., F.A.C.P., Professor of Medicine at Tulane University of Louisiana School of Medicine. He will present the George Brown Memorial Lecture on Oct. 23 on the subject, "Digital Rheo-Plethysmography." The meeting is being held in New Orleans, Oct. 22-28, under the Presidency of Dr. E. Cowles Andrus, F.A.C.P., Baltimore. During the meeting Dr. Irvine H. Page, F.A.C.P., Cleveland, will be installed as President.

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Dr. Louis Krause, F.A.C.P., Baltimore, former College Governor for Maryland, was the guest speaker at the Annual Scientific Meeting of the Preston County (W. Va.) Medical Society. He discussed "Medicine and the Bible" at the Preston Country Club on June 23, 1955.

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Drs. E. Cowles Andrus, F.A.C.P., Baltimore, Louis N. Katz, F.A.C.P., Chicago, and Paul D. White, M.A.C.P., Boston, were among the participants in an International Symposium on Arteriosclerosis that was held in Minneapolis, Sept. 7-9, under the joint sponsorship of the University of Minnesota and the Minnesota Heart Association.

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In addition to Dr. Charles M. Caravati, F.A.C.P., Richmond, as reported in the August issue of this journal, guest speakers at the Annual Meeting of the West Virginia State Medical Association included: Drs. Marion A. Blankenhorn, F.A.C.P.,

Cincinnati, a former Regent of the College; James P. Hendrix, F.A.C.P., Durham, N. C.; Chester S. Keefer, F.A.C.P., Boston, Mass.; and Edward S. Orgain, Sr., F.A.C.P., Durham, N. C. The 88th Annual Meeting was held at The Greenbrier, White Sulphur Springs, Aug. 18-20.

Col. Charles L. Leedham, F.A.C.P., who has been Chief of Medical Education and Training in the Office of the Surgeon General of the U. S. Army, retired on August 31, 1955, and has been appointed Director of Education, Frank E. Bunts Educational Institute, Cleveland Clinic Foundation, Cleveland, Ohio. He succeeds Dr. Fay LeFevre, F.A.C.P., who has been Director of Education for the last three years in addition to his other duties at the Clinic.

Col. Leedham will direct the activities of the Bunts Educational Institute, which offers graduate and postgraduate medical courses and supervises the training of the fellows at the Clinic. Col. Leedham has been in the regular Army Medical Corps since 1929; his service has included assignments at hospitals and air fields in several states, Hawaii, and in the Far East, where he was Chief Medical Consultant to the U. S. Forces. While at Oliver General Hospital in Georgia, he also served as Professor of Clinical Medicine at the University of Georgia College of Medicine. Col. Leedham holds the awards of Legion of Merit, Bronze Star Medal and Army Commendation Ribbon.

Dr. LeFevre will act as the Consultant to Col. Leedham and will gradually devote more time to his professional duties. He is a specialist in the field of cardiovascular disease.

Dr. Elwood A. Sharp, F.A.C.P., Detroit, has recently been promoted to the position of Medical Assistant to the President, Harry J. Loynd, of Parke, Davis & Company. Since 1929 Dr. Sharp had been the Company's Director of Clinical Investigation.

Dr. Fred A. J. Geier, F.A.C.P., was appointed Head of the Department of Medicine at Doctors Hospital, Washington, D. C., beginning August 1, 1955.

Dr. Giles F. Filley (Associate), joined the Department of Medicine of the University of Colorado Medical Center, Denver, Sept. 1, 1955. He is also serving as Clinical Physiologist at the Colorado Foundation for Research in Tuberculosis. Dr. Filley was previously Director of the Department of Physiology, Trudeau-Saranac Institute, Trudeau, N. Y.

Dr. John A. Prior, F.A.C.P., Columbus, resigned during the summer as Assistant Dean at Ohio State University College of Medicine and has been succeeded by Dr. Chauncey D. Leake, former Executive Director of the University of Texas School of Medicine at Galveston. Dr. Prior will, however, devote his full time to teaching, research and patient care in the Department of Medicine, in which he is a Professor and Director of the Division of Chest Diseases.

Dr. Edward L. Turner, F.A.C.P., Secretary of the American Medical Association Council on Medical Education and Hospitals, who helped to establish the University of Washington Medical School in 1945, and served as its first Dean, was honored recently at ceremonies on the campus in Seattle. Friends and co-workers presented an oil portrait of Dr. Turner to the University, where it will be hung in the Health Sciences Lobby.

A check for \$2,500.00 to establish the Edward L. Turner Scholarship and Loan Fund for Medical Students, which was donated by co-workers and professional associates of Dr. Turner in Seattle, also was presented to the University President, Dr. Henry Schmitz.

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Dr. Isadore N. Dubin, F.A.C.P., heretofore Chief of the Hepatic Pathology Section, Armed Forces Institute of Pathology, Washington, D. C., has resigned and as of August 1, 1955, became Professor of Pathology and Head of the Department, Woman's Medical College of Pennsylvania, Philadelphia.

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Dr. John R. Tobin, Jr. (Associate), heretofore in private practice at Spokane, Wash., has accepted a full-time teaching appointment in the Hektoen Institute for Medical Research of Cook County Hospital, Chicago.

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Col. Augustus A. Hall, (MC), USA, F.A.C.P., served from July, 1952, to July, 1955, as Post Surgeon and Commanding Officer of the U. S. Army Hospital at Aberdeen Proving Ground, Md. On August 10, Col. Hall assumed the duties of Post Surgeon to Fort Bliss, Tex.

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At the Sixteenth Annual Meeting of the Society for Investigative Dermatology at Atlantic City, N. J., June 4-5, 1955, the following officers were elected: Dr. J. Lamar Callaway, F.A.C.P., Durham, N. C., President; Dr. Sture A. M. Johnson, F.A.C.P., Madison, Wis., Vice President; Dr. Herman Beerman, F.A.C.P., Philadelphia, Pa., (re-elected) Secretary-Treasurer.

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Recently founded is the Albert Einstein College of Medicine of Yeshiva University, located at Eastchester Rd. and Morris Park Ave., New York 61, N. Y. Among recently appointed members of the faculty are Dr. Charles W. Rieber, F.A.C.P., as Associate Professor of Clinical Medicine, and Dr. Arthur S. Abramson, F.A.C.P., as Professor and Chairman of the Department of Rehabilitation Medicine.

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During the summer Dr. Garfield G. Duncan, F.A.C.P., Philadelphia, made a consultant's tour of the U. S. Army Hospitals in France, Germany and Austria.

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As of August 1, 1955, Dr. Theodore B. Schwartz, F.A.C.P., was appointed Chief of the recently established Endocrinology and Metabolic Diseases Division of the Department of Medicine at Presbyterian Hospital, Chicago. Dr. Schwartz was formerly Assistant Chief of Medicine at the Veterans Administration Hospital, Durham, N. C.

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Dr. William J. Grace, F.A.C.P., Associate Professor of Medicine at Cornell University Medical College, now on active duty with the United States Armed Forces in San Juan, Puerto Rico, has been appointed Associate Professor of Clinical Medicine, University of Puerto Rico School of Medicine, pro tempore.

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Dr. Albert A. Brust, Jr. (Associate), Atlanta, has recently been promoted to Associate Professor of Medicine at Emory University School of Medicine.



Dr. Robert A. Cooke, M.A.C.P., New York City, was recently honored when his portrait was presented to Roosevelt Hospital. The painting had been commissioned by a group of physicians who had been his students. Dr. Cooke, who is Director of the Hospital's Institute of Allergy, founded the first clinic devoted to allergy diseases in 1919 at New York Hospital, whence it was removed to Roosevelt Hospital in 1932.

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As of Aug. 1, 1955, Dr. William H. Sebrell, Jr., F.A.C.P., retired after thirty years of Public Health Service as Director of the National Institutes of Health. In announcing his retirement, Dr. Leonard A. Scheele, F.A.C.P., Surgeon General of the U. S. Public Health Service, said: "His directorship has been invaluable in bridging a complex period of transition, not only in our own expanding research program but in medical research the world over."

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At the 80th Annual Meeting of the American Neurological Association, Dr. J. M. Nielsen, F.A.C.P., Los Angeles, was elected President.

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Dr. Walter J. Zeiter, F.A.C.P., Cleveland, Assistant to the Executive Director of the Cleveland Clinic Foundation, has recently been appointed Medical Coördinator. His responsibilities will entail coördinating the medical and surgical services with the administrative departments. He has been a member of the staff of the Clinic since 1937, when he became Head of the Department of Physical Medicine and Rehabilitation.

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Dr. Frank J. Holroyd, F.A.C.P., Princeton, has been reelected Chairman of the West Virginia Medical Licensing Board for a second two-year term.

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Dr. Noble P. Sherwood, F.A.C.P., Emeritus Professor of Bacteriology at the University of Kansas, left last month for Djakarta, Java, to accept a position as Visiting Professor of Microbiology at the University of Indonesia. It is expected that Dr. Sherwood will return to the States in the fall of 1957 or in January, 1958.

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Drs. Herrman L. Blumgart, F.A.C.P., Boston, Mass., and Howard P. Lewis, F.A.C.P., Portland, Ore., a Regent of the College, will, respectively, become Editors of *Circulation* and *Modern Concepts of Cardiovascular Disease* with the January, 1956, issues. Dr. Blumgart succeeds Dr. Thomas M. McMillan, F.A.C.P., Philadelphia, College Governor for Eastern Pennsylvania. One of Dr. Lewis' Associate Editors will be Dr. Franklin J. Underwood, F.A.C.P., also of Portland.

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Captain Ralph C. Parker, Jr., (MC), USN, F.A.C.P., having completed two years as Chief of Medicine at the U. S. Naval Hospital, Chelsea, Mass., has recently been transferred to the National Naval Medical Center, Bethesda, Md., as Chief of Medicine.

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Captain John L. Enyart, (MC), USN, F.A.C.P., has been commended by the Commander Fleet Air Quonset for his able leadership and exceptional professional skill. As Commanding Officer of the Naval Hospital, Newport, R. I., Captain Enyart was cited for the efficiency of performance by this Hospital over a period of months, and particularly during the time of the *Bennington* disaster in May, 1954.

Dr. Richard A. Kern, F.A.C.P., Philadelphia, Secretary-General of the College, has recently been named Chairman of the Advisory Panel on Medical Sciences of the Defense Department. He succeeds Dr. Lowell T. Coggeshall, F.A.C.P., Chicago, who resigned, but who will continue to be a member of the Panel and who will act as Consultant to the Office of the Assistant Secretary of Defense.

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Dr. Kenneth W. Chapman, F.A.C.P., Washington, D. C., has recently been assigned to the National Institute of Mental Health in Bethesda, Md., to assist states and communities in developing programs of prevention, control and treatment of drug addiction. He is Executive Secretary of the Public Health Service Committee on Drug Addiction, holding the Service rank of Medical Director, and was at one time Medical Officer in Charge of the Public Health Service Hospital in Lexington, Ky. More recently he was Head of the Neuropsychiatry Branch in the U. S. Public Health Service Division of Hospitals.

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On Aug. 1, 1955, Captain William M. Silliphant, (MC), USN, F.A.C.P., assumed his duties as Director of the Armed Forces Institute of Pathology, Washington, D. C. He succeeds Brigadier General Elbert DeCoursey, (MC), USA, F.A.C.P. This assignment is normally for four years and rotates in order among the Army, Navy, and Air Force.

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Dr. John R. Paul, F.A.C.P., New Haven, Conn., assumed the Presidency of the Association of American Physicians at the annual meeting held earlier this year. He succeeded Dr. Robert F. Loeb, F.A.C.P., of New York City.

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Dr. Wilburt C. Davison, F.A.C.P., Durham, was recently elected President of the North Carolina Pediatric Society.

## OBITUARIES

## DR. CHARLES H. ARMENTROUT

Dr. Charles Henry Armentrout, F.A.C.P., died suddenly from coronary thrombosis on May 19, 1955, following a usual day in his office and hospital activities in Asheville, N. C.

Dr. Armentrout was born at Clifton Forge, Va., on Dec. 9, 1907. Premedical training was at Bridgewater College and William and Mary, and he received his M.D. from the Medical College of Virginia in 1931. Following internship at his alma mater, he practiced medicine in Flint Hill, Va., until 1939. He then did postgraduate work at Harvard Medical School until 1941 when he began the practice of internal medicine in Asheville.

Entering the Navy in July, 1942, Dr. Armentrout saw active service in both Atlantic and Pacific Theaters and was the recipient of two unit citations and the Purple Heart. At the time of release from active duty, in 1946, he held the rank of Lieutenant Commander.

Following military service he did postgraduate work at the University of Wisconsin. Returning to Asheville in August, 1946, Dr. Armentrout resumed the practice of internal medicine and rapidly became recognized as a medical leader in the community. He was a member of the active staff of Memorial Mission and St. Joseph's Hospitals, Senior Consultant in Medicine to the U. S. Veterans Administration Hospital at Oteen, and at the time of his death was Chief of the Department of Medicine at Memorial Mission Hospital.

Dr. Armentrout was a member of the Buncombe County Medical Society, Medical Society of the State of North Carolina, the American Medical Association, the American Diabetes Association and the Association of Military Surgeons of the United States. He was also a charter member and Vice President of the North Carolina Society of Internal Medicine. He was certified by the American Board of Internal Medicine in 1941 and became a Fellow of the American College of Physicians in 1949.

He is survived by Edna K. Mashburn Armentrout, to whom he was married on July 31, 1931, and who resides at 131 Cambridge Road, Asheville.

The loss of Dr. Armentrout is keenly felt by all who knew him and had come to rely on his judgment and acumen.

ELBERT L. PERSONS, M.D., F.A.C.P.,  
Governor for North Carolina

## DR. H. SHERIDAN BAKETEL

H. Sheridan Baketel, A.M., M.D., F.A.C.P., was born in Hopedale, Ohio, on Nov. 15, 1872, and died at his home in Wayne, Pa., on July 7, 1955.

Dr. Baketel had a distinguished career that started in the early part of this century. He was Professor of Preventive Medicine and Hygiene at Long Island College of Medicine, later Emeritus, and Lecturer on Medical Economics. During World War I, he served on active duty for 33 months and rose to the rank of Colonel in 1924.

An outstanding medical writer, Dr. Baketel edited *Medical Times* from 1911-26 and in the October, 1913, issue wrote an editorial advocating "the organization of a medical society along lines similar to American College of Surgeons." In 1923 he became co-founder and Editor-in-Chief of *Medical Economics*, which post he held

for approximately 25 years. In addition, Dr. Baketel wrote numerous monographs and was the author of the book, *Treatment of Syphilis*.

He terminated his active career in New Jersey, serving as President of Reed & Carnrick before his retirement. He was a former Vice President and Chairman of the Board of Trustees of Columbia University College of Pharmacy. He was President (1920) of American Medical Editors' Association. He was a Fellow of American Public Health Association, New York Academy of Medicine and American College of Physicians (1919) with Life Membership in 1943.

Dr. Baketel is survived by his wife, Corinne Sellers Baketel, 309 Midland Ave., Wayne, Pa., to whom is extended the sincere condolences of his many colleagues.

EDWARD C. KLEIN, JR., M.D., F.A.C.P.,  
Governor for New Jersey

#### DR. E. W. BITZER

Dr. Emory West Bitzer, F.A.C.P., of Hernando, Fla., died of acute leukemia on June 7, 1955.

Born in Taylorstown, Va., in 1882, Dr. Bitzer was a graduate of Washington and Lee University and received his M.D. degree from the University of Virginia Department of Medicine in 1903. In 1909 he entered the practice of medicine in Tampa, Fla. At one time he was Chief of the Division of Medicine, Bayside Hospital, and a member of the staff of the Tampa Municipal Hospital and the St. Joseph's Hospital. During 1926 he was President of the Hillsborough County Medical Society. He was a member of the Southern Medical Association and the American Medical Association and in 1928 became a Fellow of the American College of Physicians.

In 1949, because of repeated and severe attacks of asthma, he retired from the practice of medicine and moved to his lakeside home near Hernando. His health greatly improved, and he was able to live a full life and enjoy his various hobbies. He was taken acutely ill with pneumonia, and at that time it was discovered that he was suffering from acute leukemia.

Dr. Bitzer will be greatly missed by his many friends and associates in Tampa and West Florida. He is survived by his widow, Mrs. Elizabeth Harker Bitzer, Route 2, Box 33, Homestead, Fla.; a daughter, Mrs. Palmer Tuthill; and a son, Emory West Bitzer, Jr., who graduated last June in medicine from the University of Virginia.

WILLIAM C. BLAKE, M.D., F.A.C.P.,  
Governor for Florida

#### DR. JULIUS H. COMROE, SR.

It is with regret that the College records in its archives the death of Dr. Julius Hiram Comroe, Sr., F.A.C.P., of York, Pa., which occurred July 16, 1955. Born in Philadelphia on June 15, 1881, he attended Central High School and later the University of Pennsylvania, which conferred upon him the M.D. degree in 1903. He served his internship at the Jewish Hospital and later acted as Chief Resident Physician at this institution.

As was the custom of his day, when physiology had not reached maturity and when pathology was considered to be the foundation upon which a successful career as an internist must be built, Dr. Comroe served an apprenticeship in this subject under the late Simon Flexner. He also gave himself the other form of postgraduate preparation which all ambitious young physicians of the early years of the present century tried to obtain, if possible: postgraduate studies at Allgemeine Krankenhaus in Vienna.

After this preparation—the best obtainable in 1903—Dr. Comroe did work in several Philadelphia hospitals, including the Philadelphia General, the Polyclinic, and the Stetson Hospitals. However, it was not long after his postgraduate work that he finally settled in York, a community in the medical life of which he played an important, active, and influential rôle.

For many years he was very active, first as Visiting Physician and later as Consultant in the York Hospital. He was also very active in the York County Medical Society, in which he held several offices. For many years he was Clinic Chief of the Genito-Urinary Division of the Department of Health of Pennsylvania. During World War II, Dr. Comroe did important and unselfish work in Selective Service, being Internist for Advisory Board No. 4, which covered nine counties. He also held the position of Consulting Physician to the U. S. Railroad Retirement Board. In spite of the demands of these duties, as well as those of the private practice of medicine, Dr. Comroe found time to write and publish some 25 papers in medical journals of the United States and Europe, surely a fine accomplishment for one not directly associated with a teaching institution.

Dr. Comroe held memberships in many societies, which space limitations prevent our naming. He became a Fellow of the American College of Physicians in 1920 and was a Diplomate of the American Board of Internal Medicine.

Dr. Comroe will be greatly missed not only by those who enjoyed his personal friendship; he will also be missed by the American College of Physicians, of which he was a most loyal Fellow. Dr. Julius H. Comroe, Sr., is survived by his son, Dr. Julius H. Comroe, Jr., 106 Beverly Rd., Philadelphia 31, Pa., who, too, is a loyal Fellow of the College who has most successfully directed a number of its post-graduate courses.

THOMAS M. McMILLAN, M.D., F.A.C.P.,  
Governor for Eastern Pennsylvania

#### DR. SUMNER H. CROSS

Late in April, Dr. Sumner Hayford Cross, F.A.C.P., of Jenkintown, Pa., died at his home after a long and useful life. Dr. Cross was born in Oberlin, Ohio, in 1878. After receiving a B.A. degree in 1898 and an M.D. degree in 1901 from the University of Pennsylvania School of Medicine, he began an active medical career, which kept him in Philadelphia or its suburbs for the remainder of his life.

Following his graduation in medicine, he served an internship at the Philadelphia Polyclinic Hospital, an institution ultimately absorbed by the Graduate School of Medicine of the University of Pennsylvania. He continued his association with this hospital for several years as Instructor in Pediatrics.

His most useful and most pleasant medical association was with the Abington Memorial Hospital, which he served long and well. As early as 1915 he became Chief of Medical Service, a position he continued to fill until 1931. In this year he was made Visiting Physician. From 1938 until his retirement he was Physician-in-Chief to this hospital.

Dr. Cross was a member of his county and state medical societies and of the American Medical Association. He was also active in the Philadelphia Pediatric Society and was a member of the College of Physicians of Philadelphia. He became a Fellow of the American College of Physicians in 1934.

Dr. Cross will be long remembered by his many patients and by many colleagues. He is survived by his wife, Mrs. Sumner H. Cross, 643 Washington Lane, Jenkintown, Pa.

THOMAS M. McMILLAN, M.D., F.A.C.P.,  
Governor for Eastern Pennsylvania

## DR. DONALD J. FRICK, SR.

Donald Jackson Frick, Sr., M.D., F.A.C.P., of La Verne, Calif., died on July 26, 1955, at the Hospital of the Good Samaritan, Los Angeles, the cause of death being carcinoma of the pancreas.

Dr. Frick was born at Jonesboro, Ill., in 1873 and came to California nine years later. He received his M.D. from the University of California School of Medicine in 1899. After two years' practice in a mining camp in Arizona, he spent a year at Johns Hopkins University School of Medicine under Dr. Osler. Later he came to Los Angeles, where he served on the staffs of the Los Angeles County Hospital, the Hospital of the Good Samaritan, the Good Hope Medical Foundation, and the Barlow Sanatorium.

Dr. Frick was instrumental in organizing the Los Angeles Heart Association and became its first President. He was also President of the Los Angeles County Medical Association, President of the Board of Trustees of the Good Hope Medical Foundation, and Chairman of the Advisory Committee of the Los Angeles County Hospital. He was Clinical Professor of Medicine of the University of Southern California School of Medicine for many years. A Diplomate of the American Board of Internal Medicine, he had been a Fellow of the American College of Physicians since 1920.

During World War I, Dr. Frick served in the U. S. Army Medical Corps with the rank of Major. He was stationed at Camp Beauregard.

After some forty years of very active practice, during which he won the respect and love of his confreres and everyone with whom he came in contact, Dr. Frick retired to his ranch in La Verne, but he never lost his interest in medical and civic affairs.

In 1945 he was awarded the Gold Headed Cane by his Alma Mater, University of California, an honor which is given to one of the guest speakers at the graduation exercises of the School of Medicine.

At his retirement, Dr. Frick was considered the Dean of Internists of Southern California. He is survived by his widow, Irene Stephens Frick, Stephens-Frick Ranch, R.F.D. No. 1, La Verne, Calif.; a daughter, Margaret Frick Criley; and a son, Donald J. Frick, Jr., M.D.

ROY E. THOMAS, M.D., F.A.C.P.,  
Ex-Governor for Southern California

## DR. FRED G. HOLMES

Dr. Fred Gooding Holmes, F.A.C.P., of Phoenix, Ariz., was lost at sea on Aug. 6, 1955, when his fishing boat was found overturned in the Pacific Ocean off shore from the mouth of the Klamath River in northern California. He was accompanied by his eldest son, Dr. Fred Weber Holmes (Associate), and two grandsons, Fred W., and Stephen, who were also lost.

Dr. Holmes was born in Shelbyville, Mo., on Nov. 20, 1889. He graduated from Arizona State Teachers College in 1907, received his A.B. degree from the University of California in 1915, and his M.D. degree from Harvard Medical School in 1918. He was an externe at Peter Bent Brigham Hospital, Boston, 1918, and had additional studies at Infants' Hospital, Boston, that same year. During World War I, he was on active shore and transport duty with the U. S. Naval Reserve from August, 1918, until September, 1919. Dr. Holmes pursued additional postgraduate studies at Trudeau in 1921 and at the University of Vienna in 1928. Director of the Arizona State Tuberculosis Sanatorium at Tempe from 1924-26, he was also Chief of Staff (1933-



34, 1940-41) of the Good Samaritan Hospital and was a former member of the Executive Committee of St. Joseph's Hospital.

Keenly interested in tuberculosis, Dr. Holmes was President of the Arizona Anti-Tuberculosis Society in 1937 and was a former Director of the National Tuberculosis Association. In 1935 his work, *Tuberculosis, a Book for the Patient*, was published. He was elected President of the Maricopa County Medical Society in 1923 and in 1935 served as President of the Arizona Medical Association. Elected a Fellow of the American College of Physicians in 1930, he served as Governor for Arizona from 1937-48 and became a Life Member in 1950. In addition, he was a Diplomate of the American Board of Internal Medicine and a member of the American Medical Association, as well as Alpha Kappa Lambda, Phi Chi and Sigma Xi fraternities.

Although he retired from medical practice in 1947, Dr. Holmes led an active and busy life, having traveled around the world with his wife Lore and more recently around South America. He was active in the Presbyterian Church, was instrumental in raising funds for a fine, new Y.M.C.A. building, and worked untiringly with the Urban League to improve race relations with human equality. He had a great love of hunting and fishing. His loss has been a tremendous shock to the community as well as to the profession.

He is survived by three sons who are physicians, three daughters, and his wife, Lore, of 510 W. Monte Vista Rd., Phoenix.

LESLIE R. KOBER, M.D., F.A.C.P.,  
Governor for Arizona

#### DR. FRED W. HOLMES

Dr. Fred Weber Holmes (Associate), of Phoenix, Ariz., was drowned on Aug. 6, 1955, in the Pacific Ocean near the mouth of the Klamath River in northern California while on an early morning fishing trip along with his father, Dr. Fred G. Holmes, F.A.C.P., two sons, Fred W., age ten years, and Stephen, age eight years.

Dr. Holmes was born in San Francisco, Calif., June 25, 1917, and attended the University of California. He received his B.S., M.S. (1940), and M.D. (1942) degrees from Northwestern University, serving as resident (1941-42, 1946-47) at Passavant Memorial Hospital in Chicago. He was on active duty with the Medical Corps, A.U.S., during 1943-46. He became a Fellow in Pathology at Cook County Hospital in 1947 and was a Fellow in Medicine at Northwestern University Medical School from 1947-48.

Dr. Holmes started practice in Phoenix in 1948 in association with Dr. Leslie R. Kober, F.A.C.P., and was successively Associate and Active Staff Member at St. Joseph's, Memorial, Good Samaritan, and St. Luke's Hospitals; in January 1955, he became Medical Director of Maricopa County General Hospital. He was an active worker on various committees of the Maricopa County and Arizona Medical Associations, a member of the American Medical Association and American Heart Association, a Diplomate of the American Board of Internal Medicine, and had been an Associate of the American College of Physicians since 1950. He was active in the Presbyterian Church, Y.M.C.A., and Republican party.

His untimely passing has left a vacuum in the local profession as well as in the community that he served. The shock of the tragedy involving his father and two young sons cannot soon be forgotten. He is survived by two children, Tommy, age two years; Karen, age six years; and his wife, Frances, of 4210 N. 15th Dr., Phoenix, Ariz.

LESLIE R. KOBER, M.D., F.A.C.P.,  
Governor for Arizona

## DR. LEON LEVINSON

On Jan. 9, 1955, Dr. Leon Levinson (Associate), age 35, died of acute coronary thrombosis.

Dr. Levinson was born in Boston on Nov. 8, 1919, graduated from Harvard College in 1939 and from Tufts College Medical School in 1943. After internship and residency at the Boston City Hospital, he served in the Medical Corps of the Army and was discharged as Captain in May, 1946. Subsequent to this he served as a resident at the Bedford and West Roxbury Veterans Administration Hospitals, where his work was marked with the personal initiative and scientific interest and enthusiasm that characterized his all too brief professional career. Following the appointment in the Veterans Administration, he entered practice, at the same time continuing his academic interests and activities as a Senior Instructor in Physiology and an Instructor, subsequently Assistant Clinical Professor, of Medicine on the faculty of the Tufts College Medical School. In addition to this, he was an Assistant Visiting Physician at the Jewish Memorial Hospital, Assistant Physician at the Beth Israel Hospital, and was on the courtesy staffs of the Massachusetts Memorial, Newton-Wellesley, Faulkner, and Massachusetts Women's Hospitals. He was a member of the Middlesex South District Medical Society, the Massachusetts Medical Society, the American Medical Association, and the American Federation for Clinical Research. He was a member of the Alpha Omega Alpha fraternity and was a Diplomate of the American Board of Internal Medicine. In 1953 he became an Associate of the American College of Physicians.

Dr. Levinson's academic and professional standing at the age of 35 is ample testimony of the important part he played in the medical community of Boston, and the promise which his career gave of future accomplishments emphasizes the great loss his death has brought to our profession.

He is survived by his wife, Muriel, who with their two children, ages six and eight years, are living at 30 Tennyson Rd., West Newton. To them the heartfelt sympathy of the College is extended at this time of their great loss.

RICHARD P. STETSON, M.D., F.A.C.P.,  
Governor for Massachusetts

## DR. PAUL A. O'LEARY

Dr. Paul Arthur O'Leary, F.A.C.P., of Rochester, Minn., died July 20, 1955, after a brief illness due to metastatic carcinoma from the body of the pancreas.

Dr. O'Leary had a distinguished career in dermatology and syphilology in the United States. He was born in Brooklyn, N. Y., Nov. 11, 1891, attended Dartmouth College and received his M.D. degree from Long Island College Hospital in 1915. After an internship at Long Island College Hospital, he joined the Mayo Clinic. He was, in turn, Assistant (1917), Associate (1917-24) and Head of the Department of Dermatology and Syphilology (1924-53). He was Senior Consultant from 1953-55 and President of the Staff in 1951. He had been Professor of Dermatology and Syphilology at the University of Minnesota (Mayo Foundation) since 1928. He was formerly Chief of the Dermatology and Syphilology Service in the Worrall, Colonial, St. Mary's and Kahler Hospitals. He was Special Consultant in the Division of Venereal Diseases of the U. S. Public Health Service from 1933-55. During World War I he served as a First Lieutenant in the U. S. Army Medical Corps at Camp Greenleaf and Camp Pike.

Dr. O'Leary was the author or collaborator of more than 350 publications. He had been Chief Editor of the *Archives of Dermatology and Syphilology* since 1947 and was Dermatologic Editor of *Current Therapy*. He was Diplomate and Member of the

American Board of Dermatology and Syphilology and President in 1938 of the American Academy of Dermatology and Syphilology. He was Secretary General of the Tenth International Congress of Dermatology and Syphilology in 1940. He is a former member of the National Advisory Health Council and Sub-Committees on Dermatology and Pharmacy. He demonstrated leadership and membership in local and state medical affairs. He was a member of the American Dermatological Association, the American Medical Association, the American Association for the Advancement of Science and also was an Honorary Member of the Italian Society of Dermatology and Syphilology, Danish Society of Dermatology, Hellenic Anti-Venereal Society and Hungarian Dermatological Society. He was a Corresponding Member of the French Society of Dermatology and Syphilology and Greek Union of Dermatology and Venereology. He was a member of Beta Theta Pi, Alpha Kappa Kappa and Sigma Xi fraternities and became a Fellow in the American College of Physicians in 1930.

He is survived by his wife, Ruth Youmans O'Leary, 225 7th Ave., S.W., Rochester, Minn.

In summarizing the contributions of Dr. O'Leary to dermatology, a leading contemporary dermatologist has stated that Dr. O'Leary was trained by Stokes and as a result achieved a leading position in the treatment of syphilis. His outstanding contribution was in the evaluation of asymptomatic neurosyphilis. Later he became interested in sclerosing diseases and was the first dermatologist in the country to bring the subject of dermatomyositis before dermatologists. He did considerable work in attempting to classify the sclerodermas and was a great advocate of the diagnosis of acrosclerosis (Sellei) and looked upon it as a distinctly less severe form of scleroderma than the diffuse type.

WESLEY W. SPINK, M.D., F.A.C.P.,  
Governor for Minnesota

#### DR. NOEL F. SHAMBAUGH

It is with sorrow that we record the death of our colleague and long-time Fellow of the College, Dr. Noel Franklin Shambaugh. Death occurred at his home in Long Beach, Calif., from cardiovascular complications on May 30, 1955.

Dr. Shambaugh was born in Ridgeville, Ind., on Dec. 22, 1896. He graduated from the University of Michigan with a B.S. degree in 1920 and two years later received his M.D. from the University of Michigan Medical School. Following a two-year internship at this Institution, Dr. Shambaugh was awarded a Medical Fellowship by the National Research Council and was an Instructor at the Physiological Institute, Bern, Switzerland, during 1926-27. He then returned to his alma mater and was Assistant Professor of Clinical Investigation and of Internal Medicine from 1927-29. Moving to Long Beach in 1930, Dr. Shambaugh joined the staff of the University of Southern California School of Medicine as Assistant Clinical Professor of Medicine, which position he held until 1947. He was a Member of the Medical Staff at Seaside Memorial, St. Mary's Long Beach, and Long Beach Community Hospitals for 25 years, and was formerly Attending Physician at Los Angeles County Hospital.

During World War I, Dr. Shambaugh served as a private in the Medical Corps of the U. S. Army, and for many years held the rank of Lieutenant Commander (MC), USNR. He was a Diplomate of the American Board of Internal Medicine and became a Fellow of the American College of Physicians in 1929. Additionally, Dr. Shambaugh held memberships in his local and state medical societies and was also a member of the American Medical Association, Central Society for Clinical Research, New York Academy of Science, American Association for the Advancement of Science, and Alpha Kappa Kappa, Phi Sigma, and Sigma Xi fraternities.

Dr. Shambaugh is greatly missed in the medical community where he practiced. He is survived by his wife, Mrs. Rachael Ryan Shambaugh, 2180 Cherry Ave., Signal Hill, Long Beach 6, Calif.

GEORGE C. GRIFFITH, M.D., F.A.C.P.,  
Governor for Southern California

#### DR. THOMAS P. SPRUNT

Dr. Thomas Peck Sprunt, F.A.C.P., died in Baltimore on April 26, 1955, at the age of 71. Born Feb. 16, 1884, in Augusta County, Va., Dr. Sprunt was the son of the pastor of the Presbyterian Church in Fort Defiance. After obtaining his premedical education at Davidson College in North Carolina, receiving his A.B. degree in 1903, he eventually entered the Johns Hopkins University School of Medicine, from which he graduated in 1909. Dr. Sprunt's postgraduate education was obtained at The Johns Hopkins Hospital and the Baltimore City Hospitals, where he engaged in the study of pathology and clinical medicine. This interest he maintained throughout his life and wrote extensively on endocrinology, diseases of the liver, especially hemochromatosis, and infectious mononucleosis. In 1917 Dr. Sprunt became an associate of the late Dr. Lewellys F. Barker, F.A.C.P., and maintained this association for the practice of clinical medicine until Dr. Barker's death in 1943.

Dr. Sprunt was at one time Professor of Clinical Medicine at the University of Maryland School of Medicine and served as Acting Professor of Medicine during World War II. He was a member of the Visiting Staff of The Johns Hopkins Hospital and was instrumental in organizing and supervising the Department of Physiotherapy at The Johns Hopkins Hospital. At The Johns Hopkins University School of Medicine, Dr. Sprunt was Assistant Professor of Medicine. In 1944 he was President of the Baltimore City Medical Society. Dr. Sprunt was also a member of the American Medical Association, the Southern Medical Association, the Association of American Physicians, the American Clinical and Climatological Association, the American Association for the Advancement of Science, the American Association of Pathologists and Bacteriologists, and the Baltimore Mental Hygiene Society, which he helped organize. In 1930 Dr. Sprunt became a Fellow of the American College of Physicians and a Life Member in 1945. He was also a Diplomate of the American Board of Internal Medicine. In World War I Dr. Sprunt was a Major in the United States Army.

Dr. Sprunt is survived by his widow, Mrs. Katherine Terry Sprunt; a daughter, Dr. Katherine Sprunt, of New York City; two brothers, Alexander Sprunt, Jr., Charleston, S. C., and the Rev. Dr. James Sprunt, Raleigh, N. C.; and two sisters, Mrs. James S. White and Mrs. Nellie S. Little, Rock Hill, N. C.

R. CARMICHAEL TILGHMAN, M.D., F.A.C.P.,  
Governor for Maryland

## COLLEGE NEWS NOTES

### GIFTS TO COLLEGE LIBRARY OF PUBLICATIONS BY MEMBERS

The College is indeed grateful to the following Fellows who have recently presented autographed copies of their works to the College Library of Publications by Members:

- Chester S. Keefer, M.D., F.A.C.P., Boston, Mass.—*Prolonged and Perplexing Fevers*—co-authored with Samuel E. Leard, M.D. (Associate), Waltham, Mass.
- E. Hugh Luckey, M.D., F.A.C.P., Bronxville, N. Y.—*Cerebral Vascular Diseases: Transactions of a Conference Held Under the Auspices of The American Heart Association, Princeton, N. J.; Jan. 24-26, 1954*—co-authored with Irving S. Wright, M.D., F.A.C.P., New York City, Chairman.

### EXAMINATIONS BY CERTIFYING BOARDS

The American Board of Internal Medicine, William A. Werrell, M.D., Executive Secretary-Treasurer, 1 W. Main St., Madison 3, Wis., will hold a written examination in Chicago, Ill., Nov. 30-Dec. 2. An oral examination in the sub-specialty of Cardiovascular Disease will be held in Chicago, Nov. 30-Dec. 1. The closing date for the filing of applications for the written examination was May 1, and for the oral examination was June 1.

The American Board of Pediatrics will hold an oral examination in Washington, D. C., Dec. 2-4. Administrative Secretary, Mrs. John McK. Mitchell, 6 Cushman Rd., Rosemont, Pa.

The American Board of Radiology: Chicago, Dec. 4. Final date for filing applications for the fall examination was July 1. Candidates who will complete their training by Dec. 31 will be eligible to appear for this examination. Secretary, Dr. B. R. Kirklin, Kahler Hotel Bldg., Rochester, Minn.

American Board of Psychiatry and Neurology: New York City, December; Philadelphia, April 16-18, 1956. Secretary, Dr. David A. Boyd, 102-110 Second Ave., S.W., Rochester, Minn.

American Board of Physical Medicine and Rehabilitation, Parts I and II. Chicago, June 16-17, 1956. Secretary, Dr. Earl C. Elkins, 200 First St., S.W., Rochester, Minn.

### CALENDAR OF A.C.P. REGIONAL MEETINGS

#### Meetings concluded:

WEST VIRGINIA  
NORTH DAKOTA  
MONTANA-WYOMING  
SOUTHEASTERN (Alabama,  
Florida, Georgia, South Carolina,  
Cuba)  
WESTERN NEW YORK  
MIDWEST (Illinois, Indiana,  
Iowa, Minnesota, Wisconsin)  
KENTUCKY-TENNESSEE  
NEW JERSEY  
WESTERN PENNSYLVANIA

White Sulphur Springs	August 19, 1955
Jamestown	September 10, 1955
Billings, Mont.	October 7-8, 1955
Charleston, S. C.	October 7-8, 1955
Buffalo	October 14, 1955
Madison, Wis.	October 15, 1955
Louisville, Ky.	November 5, 1955
Newark	November 9, 1955
Pittsburgh	November 10, 1955

*Future scheduled meetings:*

OHIO	Cincinnati	November 17, 1955
ARKANSAS-OKLAHOMA	Hot Springs National Park, Ark.	December 3, 1955
DISTRICT OF COLUMBIA-MARYLAND	Baltimore	November 19, 1955
PACIFIC NORTHWEST (Oregon, Washington, Vancouver)	Vancouver	November 19, 1955
MICHIGAN	Detroit	December 3, 1955
NORTH CAROLINA	Winston-Salem	December 8, 1955
LOUISIANA-MISSISSIPPI	Shreveport, La.	January 14, 1956
EASTERN PENNSYLVANIA	Philadelphia	January 20, 1956
PRAIRIE PROVINCES (Alberta, Manitoba, Saskatchewan)	Saskatoon	February 3-4, 1956
ARIZONA	Tucson	February 11, 1956
HAWAII	Honolulu	March ?, 1956
KANSAS	Kansas City	March 23, 1956

Regional Meetings of the American College of Physicians are conducted under the direction of the College Governor for the particular territory indicated. Programs are automatically mailed to all members of the College in the individual territory for the meeting. Non-members of the College are cordially invited to attend the Regional Meeting for their area as guests of local Fellows. All programs are printed and distributed by the Executive Offices of the College, 4200 Pine Street, Philadelphia 4, Pa. Members from other states or territories may on request be placed on the mailing list for any particular meeting.

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**TAPE RECORDINGS IN THE LIBRARY OF THE AMERICAN COLLEGE OF PHYSICIANS**

Dr. William G. Leaman, F.A.C.P., Philadelphia, Pa., Director of an A.C.P. Post-graduate Course, "Cardiovascular Diseases, 1953," given at the College Headquarters, April 27-May 2, 1953, recorded the entire Course and has edited several significant tapes, which he has placed in the College Library and which are available on loan, without charge, to members of the American College of Physicians. These tapes are listed below:

**Reel No. 1—SYMPOSIUM ON HYPERTENSION AND HYPERTENSIVE CARDIOVASCULAR DISEASE**

**Subtotal Adrenalectomy**

Speaker: Charles C. Wolferth, M.D., F.A.C.P., Philadelphia, Pa.

**Reel No. 2—SYMPOSIUM ON RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE**

**The Use of ACTH and Cortisone**

Speaker: Richard A. Kern, M.D., F.A.C.P., Philadelphia, Pa.

**Reel No. 3—ARTERIOSCLEROTIC HEART DISEASE—A SYMPOSIUM Experimental Studies**

Speaker: Louis Katz, M.D., F.A.C.P., Chicago, Ill.

**Reel No. 4—HYPERTENSION AND HYPERTENSIVE CARDIOVASCULAR DISEASE—A SYMPOSIUM**

**Final Round Table Discussion**

Moderator: William G. Leaman, Jr., M.D., F.A.C.P., Philadelphia, Pa.

Participants: George Perera, M.D., New York, N. Y., Charles C. Wolferth, M.D., F.A.C.P., Philadelphia, Pa., William Jeffers, M.D., F.A.C.P., Phila-



delphia, Pa., Joseph H. Hafkenschiel, M.D., Philadelphia, Pa., Harold A. Zintel, M.D., F.A.C.S., Philadelphia, Pa.

Reel No. 5—ARTERIOSCLEROTIC HEART DISEASE

Speakers: Paul D. White, M.D., M.A.C.P., Boston, Mass.; Arthur Master, M.D., F.A.C.P., New York, N. Y.; Louis Katz, M.D., F.A.C.P., Chicago, Ill.; Alexander Gutman, M.D., F.A.C.P., New York, N. Y.

Reel No. 6—ARTERIOSCLEROTIC HEART DISEASE—A SYMPOSIUM  
Introductory Remarks, including the Present Status of the Problem and some Predisposing Factors.

Speaker: Paul D. White, M.D., M.A.C.P., Boston, Mass.

Reel No. 7—SIDE A—PERICARDIAL DISEASE:

Medical Aspects. Samuel Bellet, M.D., F.A.C.P., Philadelphia, Pa.

Surgical Treatment. Julian Johnson, M.D., F.A.C.S., Philadelphia, Pa.

(Start) THE HEART IN ENDOCRINE DISORDERS

Reel No. 7—(Continued) SIDE B—THE HEART IN ENDOCRINE DISORDERS (Concluded)

Speaker: Edward Rose, M.D., F.A.C.P., Philadelphia, Pa.

Reel No. 8—SYMPOSIUM ON RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE

Preventive Measures

Speaker: T. Duckett Jones, M.D., F.A.C.P., New York, N. Y. (Deceased)

Reel No. 9—THE PREVENTION OF HEART DISEASE

Speaker: Howard Sprague, M.D., F.A.C.P., Boston, Mass.

Reel No. 10—SIDE A—ROUND TABLE DISCUSSION—RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE. Speakers: George C. Griffith, M.D., F.A.C.P., Los Angeles, Calif.; T. Duckett Jones, M.D., New York, N. Y. (Deceased)

ACUTE AND SUBACUTE BACTERIAL ENDOCARDITIS: PRESENT DAY TREATMENT AND PROGNOSIS. Speaker: Leo Loewe, M.D., New York, N. Y.

SIDE B—SYPHILITIC HEART DISEASE WITH SPECIAL REFERENCE TO PENICILLIN THERAPY. Speaker: Joseph Edeiken, M.D., F.A.C.P., Philadelphia, Pa.

Reel No. 11—SIDE A—INTRODUCTION—ANGINA PECTORIS; GASTROINTESTINAL CONCOMITANTS AND MASQUERADES.

Speaker: Harry Bockus, M.D., F.A.C.P., Philadelphia, Pa.

EMOTIONAL FACTORS IN CARDIOVASCULAR DISEASE. Speaker: Edward Weiss, M.D., F.A.C.P., Philadelphia, Pa.

SIDE B—ARTERIOSCLEROTIC HEART DISEASE: EXPERIMENTAL STUDIES. Speaker: Louis Katz, M.D., F.A.C.P., Chicago, Ill.

Reel No. 12—CONGENITAL CARDIAC DEFECTS

SIDE A—ANGIOCARDIOGRAPHY AS AN AID IN DIAGNOSIS.

Speaker: Israel Steinberg, M.D., F.A.C.P., New York, N. Y.

SIDE B—PHYSIOLOGY AND CLINICAL ASPECTS. Speaker: Lewis Dexter, M.D., F.A.C.P., Boston, Mass.

Additionally, Dr. Leaman deposited with the College two additional tape recordings as follows:

Reel No. 13—THE CARDIAC CLINICOPATHOLOGICAL CONFERENCE

Speaker: Howard B. Sprague, M.D., F.A.C.P., Boston, Mass.

Recorded at the Annual Session of the American College of Physicians, Philadelphia, April, 1955. A part of program of Clinics, Thursday, A.M., at Philadelphia General Hospital, Surgical Amphitheater.

- Reel No. 14—POSTGRADUATE COURSE BANQUET AT PENN SHERWOOD HOTEL, April 27, 1953.
- Reel No. 15—THE SECOND ANNUAL CLAUDE BRUNSON PANEL  
 Moderator: Capt. Julian Love, (MC), USN, F.A.C.P., Corona, Calif.  
 Subject: Congestive Failure  
 Speakers: John Deitrich, M.D., F.A.C.P., Philadelphia, Pa., Louis Leiter, M.D., New York, N. Y., Arthur C. DeGraff, M.D., F.A.C.P., New York, N. Y., A. Stone Freedberg, M.D., Boston, Mass.
- Reel No. 16—SYMPOSIUM ON RHEUMATIC FEVER AND RHEUMATIC HEART DISEASE  
 The Use of ACTH and Cortisone  
 Speaker: Richard A. Kern, M.D., F.A.C.P., Philadelphia, Pa.
- Reel No. 17—AUSCULTATION OF THE HEART  
 A Review of the Heart Sounds in Health and Disease—including audio-visual principles (Part of Clinical Demonstration at the Philadelphia General Hospital, Course No. 5, American College of Physicians)  
 Reference: "Cardiac Auscultation," J. Scott Butterworth, M.D., et al., Grune and Stratton, 1955
- Reel No. 18—HYPERTENSION AND HYPERTENSIVE VASCULAR DISEASE—A SYMPOSIUM  
 Pathogenesis  
 George A. Perera, M.D., New York, N. Y.  
 Essentials of a Medical Evaluation  
 William Jeffers, M.D., F.A.C.P., Philadelphia, Pa.  
 The Present Status of Sympathectomy  
 Harold Zintel, M.D., F.A.C.S., Philadelphia, Pa.  
 Subtotal Adrenalectomy  
 Charles C. Wolferth, M.D., F.A.C.P., Philadelphia, Pa.
- Reel No. 19—HYPERTENSION AND HYPERTENSIVE CARDIOVASCULAR DISEASE (Continued from Tape 18)  
 Round Table Discussion  
 Participants: George A. Perera, M.D., New York, N. Y., William Jeffers, M.D., F.A.C.P., Philadelphia, Pa., Harold Zintel, M.D., F.A.C.S., Philadelphia, Pa., Charles C. Wolferth, M.D., F.A.C.P., Philadelphia, Pa., Joseph H. Hafkenschiel, M.D., Philadelphia, Pa.
- Reel No. 20—SYMPOSIUM ON ARTERIOSCLEROTIC HEART DISEASE  
 1. Introductory Remarks, including the Present Status of the Problem and Some Predisposing Factors—Dr. Paul White, M.A.C.P., Boston, Mass.  
 2. Experimental Studies—Dr. Louis Katz, F.A.C.P., Chicago, Ill.  
 3. Metabolic Aspects—Dr. Alexander Gutman, F.A.C.P., New York, N. Y.
- Reel No. 21—SYMPOSIUM ON ARTERIOSCLEROTIC HEART DISEASE  
 Dr. Arthur M. Master, F.A.C.P., New York, N. Y.  
 Question & Answer Period  
 Participants: Paul White, M.D., M.A.C.P., Boston, Mass., Louis Katz, M.D., F.A.C.P., Chicago, Ill., Alexander Gutman, M.D., F.A.C.P., New York, N. Y., Arthur M. Master, M.D., F.A.C.P., New York, N. Y.

# DR. J. MURRAY KINSMAN GIVES POSTGRADUATE LECTURES IN PUERTO RICO

Dr. J. Murray Kinsman, F.A.C.P., Regent and member of the Committee on Credentials and other Committees of the American College of Physicians, and Professor of Medicine and Dean of the University of Louisville School of Medicine, on invitation, conducted a Postgraduate Course during August, 1955, at San Juan, for

the members of the Puerto Rico Medical Association. While there, he was the guest of honor at a reunion of University of Kentucky School Alumni, numbering some 40 or 45 physicians, who are now in the practice of medicine on the Island. He also conducted a Clinic at the Veterans Administration Hospital, where Dr. Rafael Rodriguez-Molina, F.A.C.P., College Governor for Puerto Rico, is the Chief of the Medical Service.

Dr. Kinsman's Course of Lectures included the following: Pyelonephritis; The Management of the Hypertensive Patient; The Bedside Recognition of Cardiac Arrhythmias; Newer Developments in the Treatment of Arteriosclerosis; Vitamin B<sub>12</sub> Assays in Blood Diseases (A Summary of Research done in the Laboratories of the University of Louisville School of Medicine).

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Dr. Carl V. Moore, F.A.C.P., College Governor for Missouri, has resigned as Dean of Washington University School of Medicine, and has been appointed Busch Professor of Medicine and Head of the Department of Internal Medicine, Washington University School of Medicine, and as Physician-in-Chief at Barnes Hospital. Dr. Moore succeeds Dr. W. Barry Wood, Jr., F.A.C.P., who resigned to become Vice President of Johns Hopkins University and Professor of Microbiology in Johns Hopkins University School of Hygiene and Public Health.

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Four of the newly elected officers of the American Diabetes Association are College members. They are: Dr. Henry T. Ricketts, F.A.C.P., Chicago, Ill., President; Dr. Frederick W. Williams, F.A.C.P., New York City, First Vice President; Dr. John A. Reed, F.A.C.P., Washington, D. C., Second Vice President; and Dr. Franklin B. Peck, Sr., F.A.C.P., Indianapolis, Ind., Secretary.

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Dr. M. Coleman Harris, F.A.C.P., San Francisco, Calif., was recently elected Chairman of the Board of Governors of the Allergy Foundation of Northern California, Inc.

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Dr. Walter P. Bitner (Associate), Harrisburg, Pa., has recently been elected Secretary-Treasurer of the Pennsylvania Radiological Society.

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The College was so well represented at the 105th Annual Session of the Medical Society of the State of Pennsylvania held in Pittsburgh, Sept. 18-23, and at the Annual Meeting and Scientific Sessions of the American Heart Association held in New Orleans Oct. 22-28, that the list of speakers would be too long to include in the News Notes. However, it is estimated that over 25 members had a part on the program at each of these meetings.

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Captain George Neely Raines, (MC), USN, F.A.C.P., has reported for duty in the Bureau of Medicine and Surgery as the Head of the Neuropsychiatry Branch of the Professional Division.

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Dr. James A. Brussel, F.A.C.P., Assistant Commissioner, Department of Mental Hygiene, New York State, served as Psychiatric Adviser to the National Broadcasting Co. for its nation-wide program, "Life in 1976," televised in October.

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Dr. Frank Leone (Associate), Danbury, Conn., has been made Attending in Dermatology to the Danbury Hospital.

Dr. David I. Abramson, F.A.C.P., Chicago, Ill., has been appointed Professor and Head of the Department of Physical Medicine and Rehabilitation at the University of Illinois College of Medicine.

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Dr. Edward C. Reifenstein, Jr., F.A.C.P., Butler, N. J., has been appointed Associate Medical Director of E. R. Squibb & Sons.

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The expanded Federal Program for Indian health in Oklahoma, Kansas, Florida, Mississippi and North Carolina will be administered by Dr. Alonzo F. Brand, F.A.C.P., who has been appointed by the U.S.P.H.S. as Medical Officer in charge of the Indian Health Area Office in Oklahoma City, Okla., and will be responsible for the operation of the area's eight Public Health Service Hospitals for Indians, for the health program in six Indian boarding schools, and for hospital care furnished to Indians through contracts with community hospitals.

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Northwestern University Medical School has recently announced the faculty promotions of three members of the College: Dr. Samuel M. Bluefarb, F.A.C.P., Associate Professor of Dermatology; Dr. Craig W. Borden, F.A.C.P., Associate Professor of Medicine; and Dr. Frederick Fitz, F.A.C.P., Associate Professor of Medicine.

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The new seven-story Morton Medical Research Building on the Northwestern University Chicago campus was dedicated Tuesday, Sept. 27. The dedication highlighted the 98th Founders Day ceremonies commemorating the founding of the Medical School.

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Dr. Hilton S. Read, F.A.C.P., Ventnor, N. J., was honored on July 28, 1955, at a dinner given at the Haddon Hall Hotel, Atlantic City, by Dr. I. S. Ravdin, F.A.C.S., in the form of a presentation of a Medal by Dr. Josef Deutz, German Consul in New York representing the German Consul General. The Medal was awarded Dr. Read by the President and Senate of the University of Marburg, Germany, for his program of bringing German medical students to this country for their intern training.

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A portrait of Dr. John W. Scott, F.A.C.P., Lexington, past President of the Kentucky State Medical Association and the Fayette County Medical Society, was recently presented to the Fayette County Society at the annual dinner meeting in Lexington.

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Dr. Howard T. Karsner, F.A.C.P., Research Advisor to the Bureau of Medicine & Surgery, Navy Department, has been appointed as the General Consultant of the Medical Advisory Board of the Leonard Wood Memorial (American Leprosy Foundation).

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Dr. C. Phillip Miller, F.A.C.P., Chicago, has been appointed to a special committee on medical research by the National Science Board to review and evaluate the medical research programs of the Department of Health, Education and Welfare, at whose request the review is being made.

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Dr. Benjamin B. Wells, F.A.C.P., Omaha, Nebr., Professor of Medicine at Creighton University School of Medicine, recently served as Professor of Medicine pro tem at Georgetown University School of Medicine, Washington, D. C. It is the

custom of the latter institution to bring in leading teachers from other schools for a short period to broaden the educational opportunities of the students and house staff.

Dr. Hugh H. Hussey, Jr., F.A.C.P., Washington, D. C., was honored at a joint dinner meeting of the Georgetown University Alumni Association and the Georgetown Club of Boston, in Boston, May 9. Dr. Hussey was one of five to receive the John Carroll Award.

Dr. Sidney E. Eisenberg, F.A.C.P., New Britain, Conn., has been appointed Assistant Clinical Professor of Medicine at Yale University School of Medicine.

Rear Admiral H. Lamont Pugh, F.A.C.P., former Surgeon General of the Navy, has been assigned as Inspector General of all Navy Medical Department activities.

Dr. C. Wesley Eisele, F.A.C.P., Director of the Office of Postgraduate Medical Education, University of Colorado, has been appointed by the President of the American College of Physicians as an additional member of the Residency Review Committee. This Committee with a similar Committee from the American Board of Internal Medicine and in cooperation with the Council on Medical Education and Hospitals of the American Medical Association, pass upon hospitals that seek approval for their residency training programs. Other members of this Committee from the American College of Physicians include Dr. Howard Wakefield, F.A.C.P., Chairman, Chicago, and Dr. Arthur R. Colwell, Sr., F.A.C.P., Chicago. Alternates for the above are Dr. Richard B. Capps, F.A.C.P., and Dr. Edwin N. Irons, F.A.C.P., both of Chicago.

Dr. Chester S. Keefer, F.A.C.P., Boston, Mass., Regent and ex-Governor of the College, has been appointed Director of Boston University School of Medicine. Dr. Keefer succeeds Dr. James M. Faulkner, F.A.C.P., who has gone to the Massachusetts Institute of Technology as Medical Director.

Dr. Wetherbee Fort, F.A.C.P., Baltimore, has recently been elected Treasurer of the Medical and Chirurgical Faculty of the State of Maryland.

Three Fellows of the College have recently been elected to offices of the Johns Hopkins Medical and Surgical Association. Dr. Walter B. Martin, Norfolk, Va., has been made President; Dr. James Heyward Gibbs, Columbia, S. C., Vice President; and Dr. R. Carmichael Tilghman, Baltimore, Md., has been reelected Associate Secretary-Treasurer.

Dr. John Mars Caldwell, F.A.C.P., former Colonel, (MC), USA, has been appointed Chairman of the Department of Psychiatry at the Medical College of Georgia.

Dr. J. Lamar Callaway, F.A.C.P., Durham, N. C., has recently been elected President of the Society for Investigative Dermatology. At the same time, Dr. Herman Beerman, F.A.C.P., Philadelphia, was reelected Secretary-Treasurer.

Newly elected officers of the American Trudeau Society include Dr. H. Stuart Willis, F.A.C.P., Chapel Hill, N. C., President; Dr. Theodore L. Badger, F.A.C.P.,

Boston, Mass., Vice President; and Dr. William G. Childress (Associate), Valhalla, N. Y., Secretary-Treasurer.

Guest speakers at the recent Institute on Neuromuscular and Rheumatic Diseases held at Creighton University School of Medicine, Omaha, included: Dr. William D. Robinson, F.A.C.P., Ann Arbor, Mich.; Dr. Harold N. Neu, F.A.C.P., Omaha, Nebr., and Dr. Joseph G. Benton (Associate), New York.

Dr. Nathaniel E. Reich, F.A.C.P., Brooklyn, N. Y., presented a series of lectures on cardiovascular diseases during August in the Near East. He spoke at the medical schools of the University of Athens, University of Cairo, and the Hebrew University in Jerusalem.

Dr. Ray F. Farquharson, F.A.C.P., Governor of the College for the Province of Ontario, Canada, spoke on "Pitfalls in Diagnosis" at the meeting of the Ontario Chapter of the College of General Practice of Canada, held at the Royal York Hotel in Toronto in September.

Dr. William B. Bean, F.A.C.P., Iowa City, Iowa, presented two papers, namely, "Recent Setbacks in Medicine" and "Clinical Significance of Vascular Changes in the Skin and Mucous Membranes," at the 66th Annual Session of the Washington State Medical Society which convened in Seattle in September.

Two Fellows of the College, Dr. Louis G. Moench, Salt Lake City, Utah, and Dr. John G. Young, Dallas, Tex., were speakers at the recent Annual Meeting of the Iowa Academy of General Practice held in Des Moines.

Three Fellows of the College were speakers at the 23rd Annual Assembly of the Omaha Mid-West Clinical Society held in October at the Hotel Paxton, Omaha, Nebr. They are: Dr. Frank H. Bethell, Ann Arbor, Mich.; J. Scott Butterworth, New York City; and Harold D. Palmer, Springfield, Ill.

Dr. Stewart Wolf, Jr., F.A.C.P., Oklahoma City, Okla., spoke on "Patho-physiological Considerations of the Human Colon" before the Nebraska State Medical Association Annual Meeting recently held in Omaha, Nebr.

Dr. Louis H. Bauer, F.A.C.P., New York Secretary General of the World Medical Association, spoke at the Ninth Session of the Australasian Medical Association, which met in Sydney in August. He also visited Vienna in September, where the 24th World Medical Association Council Session and the Ninth General Assembly met at that time.

Two Fellows of the College, Dr. Grace A. Goldsmith, New Orleans, La., and Dr. Carl V. Moore, St. Louis, Mo., were speakers at the 38th Annual Meeting of The American Dietetic Association held in St. Louis, Oct. 18-21. Dr. Goldsmith spoke on "Niacin Deficiency in Man," and Dr. Moore spoke on the "Absorption of Iron from Enriched Bread and Other Foods."

Dr. Dorothy M. Horstmann, F.A.C.P., Associate Professor of Preventive Medicine at Yale University School of Medicine, recently lectured before the Naval Medical Research Unit No. 3, Cairo, Egypt.



Dr. Francis C. Wood, F.A.C.P., Philadelphia, Chairman of the Department of Medicine of the University of Pennsylvania School of Medicine, has been named to the Frank Wister Thomas Professorship of Medicine, which is named for the late Dr. Thomas an honor graduate of the School of Medicine, Class of 1380. Funds for the establishment of the chair were provided in the will of Dr. Thomas' widow, who specified that "the Head or Chief Professor of Medicine at the Medical School" should occupy the chair.

Rear Admiral Bartholomew W. Hogan, (MC), USN, F.A.C.P., Surgeon General of the Navy and Chief of the Bureau of Medicine and Surgery, accompanied by Dr. Frank B. Berry, Assistant Secretary of Defense (Health and Medical), on Sept. 3, 1955, to Alaska and the Bremerton, Washington, area. Major General Silas B. Hays, F.A.C.P., Army Surgeon General, and Dr. Leonard Scheele, F.A.C.P., Surgeon General of the Public Health Service, also accompanied Dr. Berry on the trip. Major General Dan C. Ogle, F.A.C.P., Air Force Surgeon General, had departed earlier for Anchorage, Alaska, where he was the principal speaker at the dedication of the Elmendorf Air Force Base Hospital. Dr. Berry and his party also attended the dedication ceremonies. While in Alaska, Dr. Berry, in company with the Surgeons General, visited military installations of the three military services at Kenai, Fairbanks, Fort Greeley, and Kodiak.

The Association of Military Surgeons of the United States presented a comprehensive three-day program on the medical problems facing the military services and the nation in an atomic war. This was the 62nd Annual Convention of the Association, and was held at the Statler Hotel in Washington, D. C., on Nov. 7-9.

#### A.C.P. POSTCONVENTION TRIP TO HAWAII FOLLOWING LOS ANGELES SESSION

The 37th Annual Session of the American College of Physicians will be held at Los Angeles, Calif., April 16-20, 1956. Details have been concluded for a Post-convention Trip to the Hawaiian Islands immediately after the Session. The Cruise Conductor will be Mr. Joseph P. Sims, Jr., RAYMOND-WHITCOMB, Inc., 1600 Walnut Street, Philadelphia 3, Pa. Special planes, via United Air Lines, will leave Los Angeles on the evening of Friday, April 20, or on the morning of Saturday, April 21, according to the preference of individuals for a night or day flight, arriving in Honolulu on Saturday morning or Saturday afternoon, according to plane selected. Dr. Nils P. Larsen, College Governor for Hawaii, is General Chairman of Arrangements in Honolulu and has spent much time in selecting and recommending feature events and trips that will be most attractive to the members.

Governor King, of the Hawaiian Islands, has designated the week of April 22 as "Medical Centennial Week." During the week the Hawaiian Medical Association will hold its meetings in Honolulu and its members will speak at different service clubs concerning the service of medicine and its evolution during the past one hundred years, particularly with respect to Hawaii.

The College party will be housed at the Princess Kaiulani Hotel. A Presidential Cocktail Party will be tendered to the members at the hotel on Saturday evening, April 21. Headquarters for registration, programs and meetings will be the Reef Hotel, which can accommodate the medical profession of Hawaii and provide meeting rooms. Scientific breakfast meetings will be held on Monday and Tuesday, April 23-24, from 7:30 a.m. to 10:00 a.m., during the cool hours of the morning, giving the physicians the rest of the day for entertainment, sight-seeing, tours and other special activities. On Monday, after the scientific meeting, short trips are planned to various beautiful spots on the island, such as Mt. Tantalus, Koko Head, to the petroglyphs and the ruins of Kamehameha III's Palace, both of which are located in a beautiful

DeGraff, F.A.C.P., is Chairman of the Planning Committee and will preside. Among the speakers at the morning session and their subjects are: Dr. Gene H. Stollerman, M.D. (Associate), Chicago, Ill., "Prophylaxis Against Rheumatic Fever"; and Dr. Currier McEwen, F.A.C.P., New York City, "Treatment of Rheumatic Fever and Carditis." Dr. Harold E. B. Pardee, F.A.C.P., New York City, President of the New York Heart Association, will preside at the luncheon.

A course in Interpretation of Complex Arrhythmias will be given at Michael Reese Hospital, Chicago, Ill., by Dr. Louis N. Katz, F.A.C.P., Dr. Richard Langendorf, F.A.C.P., and Dr. Alfred Pick. This is an *advanced* course intended only for experienced electrocardiographers. The class will meet daily from 9:00 a.m. to 5:00 p.m., Dec. 5-9. Further information and a copy of the lecture schedule may be obtained from Secretary, Cardiovascular Department, Medical Research Institute, Michael Reese Hospital, Chicago 16, Ill.

As part of the program of the American Association for the Advancement of Science, a symposium, "Physiological Bases in Psychiatry," will be held Dec. 27-28 at Atlanta, Ga. Further details may be obtained from Harold E. Himwich, M.D., F.A.C.P., Galesburg State Research Hospital, Galesburg, Ill.

The First Annual Los Angeles Medical Convention will be held at the Biltmore Hotel, Jan. 3-5, 1956. The Convention is endorsed by the three major medical schools in Los Angeles County and top scientific speakers from all parts of the United States will participate. In conjunction with this program a "Cavalcade of Health and Medical Progress" will be held at the Shrine Auditorium, Jan. 6-15, which will be open to the public.

Under the Chairmanship of Dr. George E. Burch, Jr., F.A.C.P., a short continuation course, "Fluid and Electrolyte Balance," sponsored by the Division of Graduate Medicine of Tulane University of Louisiana School of Medicine will be held Jan. 16-21, 1956. Additional courses include "Pediatric Neurology," Dr. Ralph V. Platon, Feb. 6-10, 1956; and "Industrial Medicine," Dr. Waldo L. Treuting, April 12-13, 1956. Detailed information concerning these courses may be obtained from Director, Division of Graduate Medicine, 1430 Tulane Ave., New Orleans 12, La.

The American Psychosomatic Society will hold its 13th Annual Meeting at the Sheraton Plaza Hotel in Boston, March 24-25, 1956. The Program Committee will receive titles and abstracts of 20-minute papers for consideration for the program no later than Dec. 1. Abstracts should be submitted in sextuplicate to Stanley Cobb, M.D., Chairman, Program Committee, 551 Madison Ave., New York 22, N. Y.

Plans are being made for the first European symposium on vitamin B-12 to be held the last week of May, 1956, in Hamburg. It will be under the auspices of the Physiological Chemist, Professor Kuhnau, and the Internist, Professor Jores. The physiology and the clinical application of vitamin B-12 in human and veterinary medicine will be discussed. For information write to Doz. Dr. H. Bauer, Nervenklinik, Hamburg-Eppendorf, Germany.

The Sixth Congress of the International Society of Hematology will be held in Boston, Sept. 3-8, 1956, under the Presidency of Dr. William Dameshek, F.A.C.P., Boston. Those wishing to present papers should send abstracts of 300 words or less in English, French, or Spanish. Selections of papers will be based on originality, interest, and scientific importance, and must be submitted by Feb. 1, 1956. Additional details may be obtained from the International Society of Hematology, New England Medical Center, Harrison Ave. at Bennet St., Boston 11, Mass.

The Fourth International Congress of Internal Medicine will be held in Madrid, Spain, from Sept. 19 to 23, 1956, under the Presidency of Professor C. Jimenez Diaz. Please address all inquiries to the Secretariat: Drs. J. C. de Oya and J. Gimena; Hortaleza No. 90, Madrid, Spain.

forest at the edge of the city. Alternate trips may be available, such as to the pineapple plantation or to the Hawaiian Sugar Plantation Association Experiment Station, foremost agricultural station in the world. Monday afternoon may be utilized for the beach, and the evening for private parties, going to local entertainments, such as night clubs, for those interested.

After the Tuesday morning scientific session, there will be private showings at the Bishop Museum, where one will see artifacts and hear the history of anthropological and ethnological research of the Pacific, or to the Academy of Arts, where the director will conduct a personal tour of oriental art, as so well displayed at this institution. Again on Tuesday afternoon, the party will be free for deep sea fishing, swimming, shopping, etc. In the evening there will be an Hawaiian pageant, depicting the 100-year history of medicine in Hawaii. This will be an outstanding performance, a highlight of the entertainment features.

On Wednesday, there will be no scientific program, but there will be available a tour of the island of Kauai, with a possible choice of a trip to Maui. These would entail early morning departure, via Hawaiian Air Lines, sight-seeing, motor boat trip, luncheon and return flight to Honolulu in time for dinner, a typical luau, Hawaiian feast, conducted on the beach. For those not interested in the trip to the islands of Kauai or Maui, side trips may be arranged around the island, with luncheon on the other side, or a trip to Kole Kole Pass, or other outings that may be arranged.

On Thursday morning, members of the ACP party will be guests of the Naval Commandant on a Navy Barge tour of Pearl Harbor, a really interesting and exciting feature. On the way back from Pearl Harbor, the guests may be taken around Punchbowl to see the burial ground of some 13,000 soldiers killed in the Pacific. From the top of Punchbowl Hill one gets an exciting view of the city, the harbor and the surrounding mountains.

On Thursday afternoon at 4:00 p.m. the S.S. *Lurline* will leave for Los Angeles, to return home those who have chosen to return by sea. Scientific programs will be arranged aboard ship, which will arrive at Los Angeles on Tuesday, May 1.

Many in the party, however, may elect not to return by sea, but to remain for a few additional days in Hawaii, to return by special planes at the end of the week. For them, a suggestive program will be available. For instance, on Thursday afternoon, a special visit may be made to the Tripler Hospital, which is beautifully situated on top of a high hill overlooking the city and harbor. Also, on Thursday morning, Kodak Hawaii will put on a beautiful hula show for those photographers who want pictures. Girls dance among the coconut trees in one of the parks right at the beach. Near-by is the Aquarium, which also would interest some. On Thursday evening will be the Annual Banquet of the Hawaiian Medical Association, an Hawaiian feast with a good Polynesian program. On Friday trips would be available to Maui or Kauai, according to which island the individual had not visited earlier in the week. Trade Wind Tours of Hawaii has been designated by the Hawaiian Medical Association as official representatives to have all facilities ready at all times for groups of cars, guides, etc., for special parties. On Friday there are annual meetings of the Hawaiian Medical Association, with special features interesting to physicians from the mainland.

The cost of the formal trip, leaving Honolulu on Thursday, April 26, varies from about \$400.00 to \$600.00, depending on type of facilities desired. Interested physicians may obtain information of all types through the Cruise Conductor, Mr. Joseph P. Sims, Jr.

#### COMING EVENTS

The New York Heart Association will hold an all-day conference on rheumatic fever and heart disease on Tuesday, Nov. 29, at the Biltmore Hotel. Dr. Arthur C.

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## OBITUARIES

## DR. FERDINAND R. SCHEMM

It is with deepest regret that the members of the Montana-Wyoming Region of the American College of Physicians record the death of Dr. Ferdinand Ripley Schemm, F.A.C.P., of Great Falls, Mont., who died May 16, 1955, of hypertension and following two myocardial infarctions.

Dr. Schemm was born in Saginaw, Mich., on June 12, 1899. His preparation and medical education were received at the University of Michigan, his A.B. degree being granted in 1923 and his M.D. in 1925. An internship and residency in surgery at the University of Michigan Hospital followed. After three years of private practice in Big Bay, Mich., and a year of postgraduate study in European medical centers, including several months at St. Bartholomew's Hospital in London, he returned to the University of Michigan as a Teaching Fellow in Medicine from 1930-33. In 1933 he joined the Great Falls Clinic, where he immediately began, in addition to a heavy clinical practice in internal medicine, to do the research that was to lead so far. And he began and carried on this research in a moderate-sized hospital in a city of 25,000 people without any of the advantages of even a near-by university center, for it was not until 1948 that a metabolic unit was established in the Montana Deaconess Hospital and Dr. Schemm had the help of more trained personnel.

For most of the facts for the following outline of Dr. Schemm's research work, I am indebted to Dr. John A. Layne, F.A.C.P., of Great Falls.

During these past 20 years Dr. Schemm has been in the fore with those physicians who have advanced our knowledge of the pathogenesis of edema and those who have developed a more scientifically accurate and satisfactory regimen for the care of the patient with edema. He was responsible, in large measure, for the general acceptance of a more liberal intake of water in patients with edema. The use of these higher fluid intakes based upon ordinary fluid-balance principles have relieved the edematous patient of thirst and of the danger of potential augmentation of renal damage that can occur when the patient's fluids are restricted. These applications, of course, stemmed from the knowledge that in general the keystone of the edema formation is retained salt.

Dr. Schemm's first major publications in the field of water and electrolyte balance were published in the *Annals of Internal Medicine* in December, 1942, and December, 1944. He explained rationally the empirical knowledge that acids are of value in the treatment of edema and adopted the use of ingested acid and the acid-ash diet from Dr. Newberg's studies in nephritis, and applied these methods in the edematous cardiac patient. His work clarified our concepts of dehydration. He was intensely interested in the present concept of lower nephron nephrosis and, as Dr. Newberg had previously shown, he brought out the fact that the kidneys, even in the face of severe toxic injury, remain able to excrete urine of low specific gravity and excrete solids if allowed enough water to compensate for decreased renal concentrating capacity. He further applied these general principles to the treatment of portal cirrhosis, to the treatment of edema during pregnancy, and to the treatment of degenerative vascular disease in diabetic patients. His last contribution before his death was the study, recently published, of the beneficial effect of corticotropin in resistant heart failure with or without edema. Dr. Schemm's contribution to modern medical practice consists, however, not alone in these advancements of our knowledge of edema, but in his application of this knowledge to the effective clinical care of the edematous patient. And this made him a great bed-side clinician. And withal he was the warmest and most lovable of men.

Of possible interest to members of the College are the following medical meetings:

Nov. 29-Dec. 2—American Medical Association, Clinical Session, Boston, Mass.

1956

- Mar. 15-17 —Eastern Conference of Radiologists, Lord Baltimore Hotel, Baltimore, Md.
- June 17-23 —International Congress of World Confederation for Physical Therapy, New York, N. Y. For information address Miss Mildred Elson, American Physical Therapy Association, 1790 Broadway, New York 19, N. Y.
- July 22-27 —International Congress of Pediatrics, Copenhagen, Denmark, Professor P. Plum, Rigshospitalet, Copenhagen, Denmark, President.
- July 22-28 —Eighth International Congress of Radiology, Mexico City. For further information address the Congress Office at Calle del Oro 15, Mexico 7, D. F., Mexico.
- Aug. 20-24 —International Congress of Physical Medicine, Copenhagen, Denmark. Dr. B. Strandberg, Kobenhavas amts sygenus i Gentofte, Dept. of Rheumatology and Physical Medicine, Hellerup, Denmark, Honorable Secretary.

For more than 20 years he has come to the Regional Meetings of the College, bringing the results of his research, usually long before their publication. Even when there were only seven or eight members meeting in a corner hotel room, he brought to us his almost boyish enthusiasm and verve for careful scientific investigation. He brought us, moreover, kindly and helpful consultations and more than that, the friendship of a most kindly and modest man.

Since 1947 Dr. Schemm had been Chief of the Department of Internal Medicine, Great Falls Clinic, and Director of the Metabolic Unit for Cardiovascular Disease, Western Foundation for Clinical Research, Montana Deaconess Hospital. During World War I he served in the Second Army Ambulance Corps; in World War II, he was Consultant in Internal Medicine, Montana Selective Service Board. He was a Diplomate of the National Board of Medical Examiners and of the American Board of Internal Medicine, certified in the sub-specialty of cardio-vascular diseases. He was a member of the Cascade County Medical Society, of the Montana and American Medical Associations, North Pacific Society of Internal Medicine, Central and Northwest Societies for Clinical Research, American Federation for Clinical Research, Alpha Omega Alpha and Nu Sigma Nu fraternities. He became a Fellow of the American College of Physicians in 1935. In 1950 he was invited to address a meeting of the International College of Cardiologists in Paris.

In spite of the tremendous amount of work which he was able to accomplish, his home was a house of affection, of good talk, and was an inspiration, especially to his friends but also to the many visitors, scientific and otherwise, who were privileged to enter it. His wife, the brilliant and perceptive novelist, Mildred Walker, was a constant inspiration through the good days and the bad. Mrs. Schemm and three children, Mrs. Margaret Hanson, Dr. George Schemm, and Theodore Schemm, survive him; our heartfelt understanding goes out to them at the early loss of such a husband and father.

Dr. Henry Schroeder, F.A.C.P., of St. Louis, who cared for Dr. Schemm during part of his long last illness and whose association went back to some of the early work on the salt-free diet, wrote about him in a fine understanding way as follows: "One of his characteristics was pointed up by Dr. Gilson (one of Dr. Schemm's younger associates) who remarked that Dr. Schemm's interest and effort were spent on the most difficult cases." Dr. Schroeder goes on to say: "I know for a fact that no cardiac or uremic patient was considered a hopeless case by him. His great clinical courage, backed by extensive physiological knowledge, his curious mind, and his high respect for the healthy state of normal function made him not only a top notch investigator but a great physician."

Such a man comes to us but once, and his passing brings a sense of tremendous personal loss, first, of course, to his family, but also to his friends and patients and to the scientific community of which he was such an outstanding part.

Mrs. Schemm's address since Sept. 1, 1955, is in care of the English Department, Wells College, Aurora, N. Y.

HAROLD W. GREGG, M.D., F.A.C.P.,  
Governor for Montana-Wyoming



## THE MEDICAL SCHOOLS IN LOS ANGELES

THE thirty-seventh Annual Session of the American College of Physicians in Los Angeles, April 16-20, 1956, will give members of the College an opportunity to see first-hand the tremendous growth and development of the third largest city in the nation.

The advances in technology, which have done so much to change the pattern of American living, materially have affected Los Angeles in the last two decades, resulting in almost miraculous geographic and economic expansion. In its turn, the city has contributed to as well as benefited by these advances, and its citizens have seen to it that cultural and educational development has kept pace with its rise to the fore as an industrial center, through their support of innumerable civic plans and projects.

In no field has this advancement been greater than in the areas of science and medicine, and the spirit of growth is to be noted particularly in the expansion of facilities of the three medical schools located in the city.

Two of these schools are embarking on multi-million dollar building programs supported by voluntary contributions, while the third is rising to preeminence as a medical center through allocation of state tax monies. Thus in these three great institutions there will be increased opportunities for medical education, research and service under optimum conditions.

*University of Southern California School of Medicine.* The University of Southern California School of Medicine is unique in several ways. It is the only independent, non-sectarian medical school south of San Francisco and west of Texas, and it might also be one of the oldest medical schools in the area, except for the fact that it has opened its doors three times in its history and found it necessary to close them twice. Thus the present Southern California School of Medicine dates only from 1928, although the University as a whole is 75 years old.

Southern California started its first medical school in 1885, only five years after the University was founded. At that time, Los Angeles had only 10,000 residents, compared to today's population of over 4,000,000 people. The first medical school started with a faculty of eighteen, and a freshman class of twelve. When the eighth class had been graduated, the school had 50 alumni.

In the early 1900's, the University discontinued the medical school, and immediately affiliated with the College of Physicians and Surgeons, which had been granted a charter from the State of California in 1903, and had been elected to membership in the Association of American Medical Colleges in 1909. This second Southern California medical school was a victim of World War I, having to close in 1918 because of financial difficulties and tremendous loss of teaching staff to the armed forces. Ten years later, the University of Southern California opened its present medical school—its third—with 54 students, and today, this School of Medicine

has a student body of 275, a faculty of 800, and an alumni association of 1400. For the first time in its history, it owns a 10-acre medical campus on which one building already has been erected, with a drive to raise \$1,500,000 exceeding the half-way mark.

The five-story Medical Research Building was completed in 1952 for \$1,500,000. Devoted primarily to research on cardiovascular disease and cancer, the building contains many specialized laboratories for biochemistry, histopathology and biophysical studies in the fields of isotopes, electronics, and protein fractionation. There are tissue culture rooms, cold rooms, a

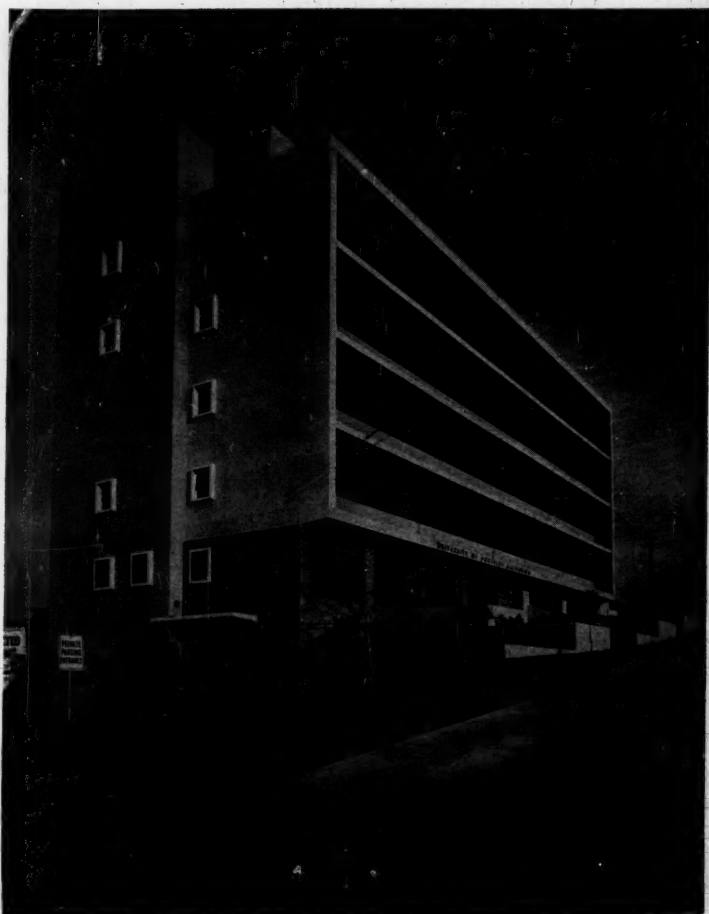


FIG. 1. Medical Research Building, University of Southern California School of Medicine.

volatile solvents laboratory, and two electron microscopes in the building. One floor is being made into a cardiovascular research center, and the entire fifth floor is equipped for animal experimentation, including surgery.

The new basic science building will consolidate all medical instruction on one campus for the first time. Until that structure is completed, all pre-clinical teaching will continue on the main University campus several miles away.

From the very beginning, high curriculum standards have characterized this medical school's course of study. Even in 1885 the course covered three years, when only three other medical schools in the United States had such a requirement. A greatly revised and streamlined undergraduate curriculum was adopted just a few years ago, the present trend being to acquaint the student with the "whole patient" as early as possible, and to correlate basic sciences with actual experience. The first two years of basic science study, formerly referred to as "pre-clinical," now are blended with certain clinical experience. While adequate time must be allowed for basic study, the educational philosophy behind the curriculum is that to understand disease is to comprehend the alterations in biochemistry, physiology and pathology, thus calling for exposure to clinical problems in the first and second years in order to correlate the basic studies with actual patients.

Aiming at the training of a well-rounded physician who will be capable of continuing his own education in the future, the Southern California School of Medicine also conducts postgraduate courses in Los Angeles and in various communities throughout Southern California as a service of its Division of Medical Extension Education.

The student body of the school is limited to entering classes each year of 68, with only one of each nine applicants accepted. Last year this medical school was one of thirteen in the nation whose graduates passed their State Board licensing examination 100 per cent.

Loyalty of the student body has been evidenced by the fact that its members have pledged one-fifth of the construction cost of the new basic science building, the average pledge being \$1,000 to be paid within three years after the student enters the practice of medicine. This is the first time that the student body of any of the 80 medical schools in the nation—both state-supported and independent colleges—voluntarily has raised so much money so quickly for the benefit of its own campus.

The wealth of clinical material available to the Southern California medical students is almost unmatched anywhere else. From its beginning in 1885, the School of Medicine has been closely connected with the Los Angeles County Hospital, and the location of the new campus directly across the street from this vast institution will facilitate greatly its use in teaching and clinical experience.

The first in-patient instruction was given on the wards of County Hospital when it consisted of only three frame buildings. Even by 1896 the hospital had only three interns, a superintendent and an assistant super-

intendent. These facts seem strange today when the County Hospital is one of the world's largest. With 3400 beds, it employs more than 4000 persons, spends more than \$16,755,000 a year, annually cares for more than 92,000 patients in its wards, and has at least 500,000 patient visits each year to its clinics.

Except for the years between 1918 and 1928, the members of the clinical faculty of the Southern California School of Medicine have served as attending physicians at the County Hospital. At present, they contribute more than 4000 hours each month toward the care of patients and the teaching of students at the hospital.

Several other large hospitals in the Los Angeles area either are affiliated with the Southern California School of Medicine, or provide research facilities for members of the faculty. The Children's Hospital is an affiliate of the medical school, and for the past 25 years undergraduate students have served their pediatrics clerkship in its wards and clinics. The Good Hope Clinic, endowed to provide complete medical and surgical care to patients in the middle income brackets, recently became an affiliate of the medical school, and five or six senior students are assigned at one time to the clinic for a three-week clerkship.

A cardio-respiratory laboratory was organized two years ago at the Good Samaritan Hospital as an integral part of the Southern California School of Medicine. The major objectives of the laboratory are research, teaching, and specialized clinical service where measurements of pulmonary function are necessary for management of chronic pulmonary disease, whether it be disability evaluation, job placement, medical care, or operative suitability.

The Barlow Sanitarium, founded in 1901, provides sanitarium care for approximately 100 patients with tuberculosis. It is well-known throughout the nation, and carries out active programs of research and teaching in the field of tuberculosis. It provides an excellent opportunity for fourth-year medical students to observe the diagnosis and management of tuberculous patients.

Members of the Southern California Medical School faculty also conduct basic research programs at two locations which are independent of the University—the Research Institute of the Cedars of Lebanon Hospital in Los Angeles, and the Research Institute of Pasadena's Huntington Memorial Hospital.

*The Medical Center, University of California at Los Angeles.* The dream of a great Medical Center at the University of California at Los Angeles, designed to serve the fast-growing population in the southern part of the state, started on its way to reality in 1946 by state legislative action, and after considerable study, the Regents selected a 35-acre site at the south end of the University campus, feeling that an on-campus location—with access to the library and other campus departments and cultural activities—would provide a better education for students of medicine and nursing.

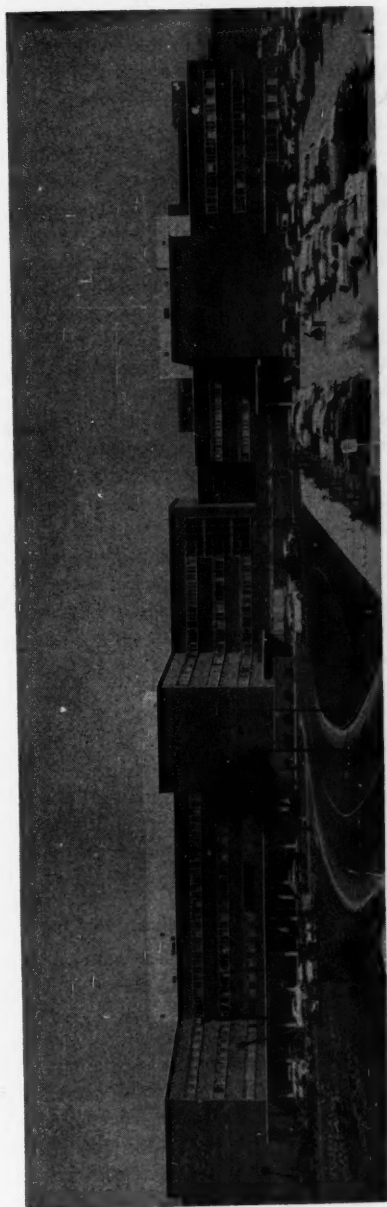


FIG. 2. Medical Center, University of California at Los Angeles.

Actual construction was begun in 1951, following the huge task of leveling the hilly property, involving moving more than 400,000 cubic yards of earth.

The six-story building—four above ground and two below—follows the general shape of a Lorraine cross, surrounding two courts, and permitting flexibility to allow for future expansion in all horizontal directions as well as vertically to Los Angeles' height-limit of thirteen stories. The courts provide light and air for all interior areas of the building, and the system of multiple crosses offers the best means of inter-connecting various functions while retaining common functions in central areas.

The general plan of the building is one of horizontal integration, with classrooms and laboratories devoted to a particular medical subject occupying the opposite wing on the same story as the corresponding ward in the teaching hospital. The design represents a full-scale effort to coördinate the basic sciences and clinical sciences within the walls of a single university, and inside the building, modular planning permits an infinite variety of floor-plan arrangements. A system of underfloor piping, including lines for compressed air, steam, gas, water, oxygen and vacuum, makes possible the immediate conversion of any classroom into a fully equipped laboratory with the addition merely of fixtures.

The cost of the present structure is about \$21,000,000. It contains more than 600,000 square feet and 12 miles of corridors, 30 miles of copper wire, 25 miles of steel pipe, and to carry electricity to 10,250 electrical fixtures and 22,000 convenience outlets, there are 265 miles of copper wire. The building also contains enough bricks to pave a walk five feet wide for seventeen miles.

Great care has been used in the expenditure of the equipment fund to ensure efficient application of the amazing equipment that is the product of this machine age. Whether labor-saving or fact-finding, the equipment is the means to an end—the improved care of patients and the more complete understanding of health and disease. Routine and special items vary from bottle washing machines and autoclaves to ultracentrifuges and electroencephalographs. Among the more unusual machines is the 1500 curie cobalt unit for treatment of deep seated cancers. Housed in a room with three-foot concrete walls and a 700 pound leaded door, the unit provides for operation by remote control and constant observation of the patient through an aquarium type window. Radioactive materials for research and therapy are moved from the radiology to the patient's area by special elevators, and appropriate "detectors" provide radiological safety.

Included in the building's special features are modern observation domes located directly above the surgeries, enabling students to observe at close range all the surgical technics being employed below. These domes are provided with two-way inter-communication systems, so that conversations may be carried on at will between the operating room staff and the viewers above. The domes are constructed so that modern television equipment may be installed easily in their centers, and operating procedures may be tele-



vised by coaxial cables to an interested audience such as a medical convention, or via closed circuit to classrooms.

The biomedical library, which connects the Medical and Nursing Schools with the university's Life Sciences Building, contains five levels of book stacks with a capacity of more than 200,000 volumes. There are two floors of reading rooms, cubicles, study desks and small seminar rooms.

While the Medical School curriculum is designed to keep pace with the rapid strides modern medicine is making, every effort is being made to insure that the medical student does not lose touch with those human factors that have made the physician such an important member of our society. In addition to the teaching hospital which at present has 320 beds in two-bed units, and a potential of 850 beds in the final form of the structure, the Medical School has been affiliated with St. John's Hospital, the Los Angeles Veterans Administration Center, the Harbor General Hospital and the Long Beach Veterans Administration Hospital.

The Medical Center will train not only doctors and nurses, but graduate students in para-medical fields, technicians, social workers, therapists and other members of the medical team. The School of Nursing offers the basic program, program for registered nurses and the graduate program. All three programs are aimed at training the nurse for her rôle in promoting, conserving and restoring individual, family and community health. Eventually the Medical Center will have a student body of 2500.

A Student Health Service which cares for the health needs of U.C.L.A.'s 14,000 students is located in the Medical Center. Independently administered and financed, but closely related to other departments, it occupies a Student Dispensary, and controls 55 beds in the hospital area. It contains offices and treatment rooms fitted for minor surgery, orthopedics, ophthalmology, otolaryngology, dentistry and physiotherapy. The psychiatric division occupies a suite of twelve rooms for interviews and for individual and group psychotherapy. Counseling on personal problems is carried on in close coöperation with the Counseling Center of the Office of the Dean of Students.

In the teaching hospital, patients will be brought in for teaching purpose, and selected on this basis. A large outpatient department offers health supervision as well as treatment facilities for more than 500 patients per day. Clinics for all age groups are available.

The devoted interest and recognized skills of the staff of the Medical Center have attracted extensive grants-in-aid of research from extra-mural sources. These and University funds have made possible a vast program of study of unsolved problems in the medical sciences and in medical treatment. An entire wing, a construction grant from the United States Public Health Service, is devoted to part of the cancer research activity which engages the attention of many of the staff. Long range programs involve the study of heart and of mental disease, tuberculosis, tropical diseases and many

other ailments. Special consideration is given the development of new surgical procedures and of new instruments and equipment.

Next to the Medical Center and integrated with its research program is the Atomic Energy Project where a select group of scientists is investigating the particular medical problems which may become common in the Atomic Age. This program is one of the few exclusively medical projects sponsored by the Atomic Energy Commission.

Animals essential in research studies are housed in a large vivarium, a wing of the Medical Center. Here on each floor are the special rooms and facilities that permit carefully controlled investigations under adequate supervision.

The Los Angeles and Long Beach Veterans Administration Centers have aided significantly the research and teaching programs of the Medical Center. Early initiation of projects, otherwise subject to several years' delay, has been possible because of their interest and effective collaboration.

Completion in 1957 is expected for a \$5,000,000 Mental Hygiene Unit which will become a wing of the Center. It will contain a neuro-psychiatric hospital, and will be operated jointly with the State Department of Mental Hygiene. Also planned are a Children's Wing, a Rehabilitation Center, and an Atomic Energy Project wing. Another tract of 34 acres has been set aside for supplementary hospitals, clinics and other buildings to provide facilities for a coöperative medical program with the community as well as with the Veterans Administration. This tract is located just west of Westwood Village, and was granted by a bill passed by Congress in 1949, the land having belonged originally to the Veterans Administration.

*College of Medical Evangelists.* Fifty years of progress and expansion are being commemorated this year, 1955, by the College of Medical Evangelists, a complete medical and educational center with three major and five related professional schools, two large hospitals, efficient out-patient clinics, a foundation for investments, and active alumni associations.

The origin of the College of Medical Evangelists is found in its hospitals and clinics, specifically with the purchase and incorporation of Loma Linda Sanitarium in San Bernardino County in 1905. With this as a basis, the School of Nursing was begun with seven students, and in 1909 a charter was granted to the College of Medical Evangelists, the School of Medicine graduating its first class of six students in 1914.

The White Memorial Hospital, on the Los Angeles campus of the school, grew from the need for additional clinical facilities for the medical students. Early in 1914 the College established a clinic in the Boyle Heights section of Los Angeles, which by 1917 had grown to such an extent that it became the Ellen G. White Memorial Hospital, named for a Seventh-day Adventist pioneer. The expansion program of White Memorial Hospital was highlighted in March of this year by the opening of the \$2,500,000 seven story addition which increases its capacity to 325 beds.



FIG. 3. College of Medical Evangelists, Loma Linda Campus.

The combined bed total of the two College of Medical Evangelists teaching hospitals is at present nearly 500, and present building plans call for an increase, with the Los Angeles campus ultimately to embrace six city blocks. The clinics operated in connection with the two teaching-medical service centers total approximately 150,000 patient visits annually, with White Memorial Hospital caring for about 10,000 patients each year. In addition, certain wards of the Los Angeles County Hospital are assigned to College of Medical Evangelist students who work under the guidance of attending staff physicians.

The seven students of nursing who marked the facility's beginning 50 years ago have grown to nearly 700 students attending one of eight professional schools—dentistry, medicine, nursing, dietetics, medical technology, physical therapy, tropical and preventive medicine, and x-ray technology. The Alumni Associations of the Schools of Medicine and Nursing annually sponsor refresher courses which serve as a means of disseminating the advances in medicine and nursing.

The \$38,900 investment of 1905 has grown to almost \$10,000,000, and continues to increase. Activation of an almost \$6,000,000 expansion budget provides for the new White Memorial Hospital wing, and new library-administration buildings at Loma Linda totaling over \$1,000,000. Further building, all on the Los Angeles campus, will include an administration building, library, new School of Physical Therapy facilities, and employee housing.

The total annual operating budget for the school exceeds \$8,000,000, with the College of Medical Evangelists' 1700 full-time employees receiving \$3,500,000 in wages, and almost another \$1,500,000 for supplies.

The College of Medical Evangelists is owned and operated by the General Conference of Seventh-Day Adventists, and is the medical education center of the church. Although it has two campuses, each a medical center within itself, it is one college under one administration, with its teaching program coordinated with the first half of the four year course in medicine on the Loma Linda site and the final two years in Los Angeles.

Members of the various College of Medical Evangelists teaching faculties are devoting much of their time to specialized research, and increasing emphasis is being given to developing an intellectual climate with research playing an increasingly important rôle. In its increased emphasis on research, the College of Medical Evangelists expects to encourage continued intellectual inquiry, thus returning in some measure the obligation owed to society by its very existence as a medical education center.

## COLLEGE NEWS NOTES

### NEW LIFE MEMBERS

It is a pleasure for the College to announce that the following Fellows have become Life Members since the publication of the list in the October issue of this journal:

Dr. Chas. E. Klontz, Rockford, Ill.  
Dr. John W. Shadle, Butler, Pa.  
Dr. Manuel Rodstein, New York, N. Y.

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### GIFT TO COLLEGE LIBRARY OF PUBLICATIONS BY MEMBERS

The College acknowledges with gratitude to Dr. Russell L. Cecil, F.A.C.P., the gift of his *Textbook of Medicine* (Ninth Edition), edited with Robert F. Loeb, M.D., F.A.C.P.

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### A.C.P. REGIONAL MEETINGS, 1956

LOUISIANA-MISSISSIPPI	Shreveport, La.	January 14
EASTERN PENNSYLVANIA	Philadelphia	January 20
COLORADO	Colorado Springs	January 20-21
PRAIRIE PROVINCES (Alberta, Manitoba, Saskatchewan)	Saskatoon, Sask.	February 3-4
HAWAII	Honolulu	March 6
KANSAS	Kansas City	March 23

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Dr. Charles H. Rammelkamp, Jr., F.A.C.P., Cleveland, was awarded the 1955 Alvarenga Prize by the College of Physicians of Philadelphia for his "outstanding work in the field of streptococcal infections, particularly in relation to rheumatic fever and nephritis." Established by the will of the late Pedro Francisco DaCosta Alvarenga of Lisbon, Portugal, an Associate Fellow of the College of Physicians of Philadelphia, the prize is awarded annually by the College of Physicians on the anniversary of the death of the testator, July 14, 1883.

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### COMMISSION ON MENTAL HEALTH INCORPORATED

Dr. Leo H. Bartemeier, F.A.C.P., Baltimore, Md., has been appointed Chairman of the Trustees of the Joint Commission on Mental Illness and Health, which has recently been formally incorporated in the District of Columbia, in preparation for a national survey on mental health problems. Dr. Daniel Blain, F.A.C.P., Washington, D. C., has been Executive Director of the Commission, and members of the Board of Trustees include: Drs. Kenneth E. Appel, F.A.C.P., Philadelphia, Walter H. Baer, F.A.C.P., Peoria, Ill., Francis J. Braceland, F.A.C.P., Hartford, Conn., Russell A. Nelson, F.A.C.P., Baltimore, Md., and Lauren H. Smith, F.A.C.P., Philadelphia. Although the Commission has been operating informally for about a year, it held its first official meeting in October to elect officers and complete other organizational details.

## AMERICAN BOARD OF NUTRITION

The American Board of Nutrition will hold the next examinations for certification as a Specialist in Human Nutrition, in April, 1956. Applications for certification should be in the office of the Secretary not later than Feb. 1, 1956. Application forms may be obtained, on request, from the Secretary, Otto A. Bessey, Department of Biochemistry and Nutrition, The University of Texas School of Medicine, 900 Grand St., Galveston, Tex.

## FELLOWSHIPS IN INDUSTRIAL MEDICINE

The U. S. Atomic Energy Commission has recently announced that eight Fellowships in Industrial Medicine will be available for the academic year 1956-57. These Fellowships are open to men and women physicians who are citizens of the United States, who have graduated from an approved college of medicine at least two years prior to beginning tenure of the Fellowship, and who are licensed to practice medicine in one of the States or Territories of the United States.

The training program consists of an academic year with lecture and laboratory instruction in the various phases of industrial medicine, and in the public health aspects of occupational medicine. The second part of the program consists of an in-plant training year, in which the Fellow will be assigned to one or more of the medical departments of the major operating plants and laboratories under the direction of the A.E.C. The stipend during a Fellowship or academic year is \$3,600; the sums of \$350 each are added to the current stipend for a wife and each dependent child. Tuition and laboratory fees, which would be required of students of similar university status, will be paid in academic courses. Other expenses may be paid, if approved by the Committee. During the in-plant year the stipend will be \$6,000.

Applications for the academic year 1956-57 should be filed before Jan. 1, 1956. All inquiries should be addressed to: A.E.C. Fellowships in Industrial Medicine, Atomic Energy Project, University of Rochester School of Medicine and Dentistry, Rochester 20, N. Y., Attention: Dr. Henry A. Blair.

Marquette University School of Medicine has reorganized and expanded its cardiopulmonary laboratory at the Milwaukee County Emergency Hospital, according to an announcement by Dr. John S. Hirschboeck, F.A.C.P., Dean of the School of Medicine, and Dr. Francis D. Murphy, F.A.C.P., Head of the Department of Medicine. The laboratory specializes in the cardiac catheterization technic and in the study of pulmonary function. Dr. John Huston, F.A.C.P., recently appointed Physician-in-Charge, has had special training in the catheterization technic at the University of Wisconsin Medical School, where he studied methods of diagnosis in heart disease. Physicians from the departments of pediatrics and surgery have been added to the group of heart specialists at the laboratory. The laboratory is a development of the division of cardiovascular disease established a year ago when Dr. George A. Hellmuth, F.A.C.P., became Director of the Division. It serves as a diagnostic and research center for the cardiovascular division and offers educational opportunities for young physicians, medical students and nurses.

Drs. William C. Menninger, F.A.C.P., Topeka, Kans., and Daniel L. Sexton, F.A.C.P., St. Louis, were honored by the Mississippi Valley Medical Society during its Twentieth Annual Meeting at St. Louis in late September. Dr. Menninger, who is College Governor for Kansas and Vice-Chairman of the A.C.P. Board of Governors,



as well as an internationally known psychiatrist, received his plaque and gold medal as one "who has made distinguished contributions to clinical medicine."

Dr. Sexton, who is President of the St. Louis Medical Society and Past President of the M.V.M.S., received the Society's 1955 Distinguished Service Award. The award, consisting of a plaque and a gold medal, is given annually to a member of the Society "who has rendered unusual and distinguished service to the medical profession."

At the meeting of the American Medical Writers' Association, held in conjunction with that of the Mississippi Valley Medical Society, Dr. Lee D. van Antwerp, F.A.C.P., Chicago, was honored as the recipient of the Association's 1955 Distinguished Service Award. Retiring President of the American Medical Writers' Association, Dr. Van Antwerp is Medical Editor of G. D. Searle Co., and Medical Director of G. D. Searle International. The award comprising a plaque and a gold medal, is given annually to a member of the Association "who has made distinguished contributions to medical literature or rendered unusual and distinguished service to the medical profession."

The Association also awarded Fellowship Certificates to the following Fellows of the American College of Physicians: Drs. Beaumont S. Cornell, Fort Wayne, Ind.; George W. Covey, Lincoln, Nebr.; William H. Gordon, Detroit, Charles E. Lyght, Rahway, N. J.; Alphonse McMahon, St. Louis; and Stewart G. Wolf, Jr., Oklahoma City.

At the Twentieth Annual Convocation, Canadian and United States Sections, of the International College of Surgeons, held at Philadelphia on the evening of September 15, 1955, the following Fellows of the American College of Physicians were awarded Honorary Fellowships: Dr. Charles L. Brown, Dean, Seton Hall University College of Medicine, Jersey City, N. J.; Dr. E. Harold Hinman, Dean, School of Medicine of the University of Puerto Rico, San Juan, P. R.; Dr. George Morris Piersol, M.A.C.P., Dean, University of Pennsylvania Graduate School of Medicine, Philadelphia, Pa.; Dr. Howard A. Rusk, Head, Department of Physical Medicine and Rehabilitation, New York University-Bellevue Medical Center, New York, N. Y.

Dr. Norbert J. Roberts, Associate, Philadelphia, heretofore Medical Director of the Pennsylvania Railroad, has accepted the appointment as Medical Director of the Standard Oil Company of New Jersey. Dr. Donald L. Glenn, F.A.C.P., heretofore Regional Medical Officer of the Pennsylvania Railroad, becomes the Medical Director, succeeding Dr. Roberts.

At the Second Annual Convention of the American College of Gastroenterology, which met in Chicago, Oct. 24-26, Dr. C. Wilmer Wirts, F.A.C.P., Philadelphia, was elected First Vice President; Dr. Joseph Shaiken, F.A.C.P., Milwaukee, Wis., and Dr. Theodore S. Heineken, F.A.C.P., Bloomfield, N. J., were, respectively, elected Third Vice President and Secretary.

Dr. Edward J. Welch (Associate), Brookline, Mass., has recently been elected President for 1955-56 of the Massachusetts Trudeau Society.

At the Eighth Annual Meeting of the North Carolina Trudeau Society, Dr. Charles D. Thomas, F.A.C.P., Black Mountain, was elected President.

Dr. C. Cabell Bailey, F.A.C.P., Brookline, Mass., was elected Secretary of the New England Diabetes Association at its recent annual meeting.

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With Dr. Frederic D. Zeman, F.A.C.P., New York City, as Chairman, the First General Session of the Eighth Annual Scientific Meeting of the Gerontological Society was called to order Oct. 27 in Baltimore, Md. Other presiding chairmen included: Dr. Edward L. Bortz, F.A.C.P., Philadelphia, College Regent; and Dr. Louis Krause, F.A.C.P., Baltimore, former College Governor for Maryland. Scientific papers were presented by Dr. Robert T. Monroe, F.A.C.P., Boston, Mass., ("The Physician's Responsibility"); Dr. Frederick C. Swartz, F.A.C.P., Lansing, Mich., ("Education for Gerontology"); Dr. J. T. Freeman, F.A.C.P., Philadelphia, ("Clinical Medicine"); Dr. William H. Lewis, Jr., F.A.C.P., New York City, ("Impact of Chronic Illness on the Practice of Medicine"); Dr. E. W. Busse, F.A.C.P., Durham, N. C., ("The Effects of Variables of Subjects and Methods in Gerontological Research"); and by Dr. Zeman ("General Therapeutic Considerations").

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Dr. Nathaniel E. Reich, F.A.C.P., Brooklyn, discussed various cardiovascular problems in the postgraduate course sponsored by the American College of Chest Physicians last month.

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The annual meeting of the Honorary Civilian Consultants to the Surgeon General of the U. S. Navy was held at the U. S. Naval Hospital, Bethesda, Md., on Oct. 28. Rear Admiral Bartholomew W. Hogan, (MC), USN, F.A.C.P., The Surgeon General of the Navy, delivered the introductory address, and Rear Admiral H. Lamont Pugh, (MC), USN, F.A.C.P., gave a brief welcoming speech. Among the Honorary Civilian Consultants are: Drs. Louis H. Bauer, F.A.C.P., New York City, John E. Gordon, F.A.C.P., Boston, Walter B. Martin, F.A.C.P., Norfolk, Va., J. Roscoe Miller, F.A.C.P., Chicago, Ill., and R. Hugh Wood, F.A.C.P., Atlanta, Ga.

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Dr. George A. Hellmuth, F.A.C.P., Milwaukee, discussed "Diagnosis and Treatment of Serious Cardiac Arrhythmias" at a joint meeting of range and county medical societies on Oct. 13 in Hibbing, Minn.

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Drs. William H. Gordon, Sr., F.A.C.P., Lubbock, Tex., Perry S. MacNeal, F.A.C.P., Philadelphia, and Edward H. Rynearson, F.A.C.P., Rochester, Minn., were guests of the California Academy of General Practice at its Seventh Annual Scientific Assembly held in San Francisco, Oct. 9-12. Their respective subjects were: "Background of Coronary Artery Disease," "Migraine and Vascular Headaches," and "Obesity and Thinness: Which Goiters Are Best Treated with Radioactive Iodine and Which with Surgery?"

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At the 25th Annual Scientific Assembly of the Medical Society of the District of Columbia, which convened in Washington, D. C., Oct. 10-12, Dr. Henry H. Turner, F.A.C.P., Oklahoma City, discussed "Some New Concepts of Thyroid Dysfunction"; and Dr. Thomas C. Chalmers (Associate), Boston, spoke on "Newer Aspects of Therapy in Infectious Hepatitis."

Among the principal speakers at the Seventh Annual Meeting and Scientific Session of the Georgia Heart Association, held in Savannah, Sept. 23-24, were: Drs. William T. Foley, F.A.C.P., and Arthur M. Master, F.A.C.P., both of New York City, and Gene H. Stollerman, F.A.C.P., Chicago.

Three members of the College have contributed to the series of weekly lectures held every Saturday at the Hartford (Conn.) Hospital. Dr. Samuel H. Proger, F.A.C.P., Boston, spoke on "Acute Coronary Disease Without Infarction" on Oct. 8; Dr. Garfield G. Duncan, F.A.C.P., Philadelphia, discussed "Practical Aspects of Diabetic Management" on Nov. 19; and on Dec. 3 Dr. Howard A. Rusk, F.A.C.P., New York City, spoke on "The Dynamic Approach to Chronic Disease."

The centenary graduation of Carlos Juan Finlay was commemorated by Jefferson Medical College and Hospital of Philadelphia on Sept. 22-23. On Thursday evening, following a day-long Symposium on Yellow Fever, a Biographical Symposium was held, during which Dr. Horacio Abascal, F.A.C.P., Havana, Cuba, Dr. Philip S. Hench, F.A.C.P., Rochester, Minn., and Dr. Leandro M. Tocantins, F.A.C.P., Philadelphia, delivered addresses. Their respective topics were: "The Doctrine of Finlay," "The Conquest of Yellow Fever," and "Finlay and S. Weir Mitchell: An Intellectual Partnership."

Dr. Harold J. Jeghers, F.A.C.P., Washington, D. C., spoke on "Oral Lesions Indicative of Systemic Disease" at the Pennsylvania Hospital in Philadelphia on Sept. 19.

Five members of the College were among the out-of-state speakers at the Ninetieth Annual Meeting of the Michigan State Medical Society, which convened in Grand Rapids, Sept. 26-27. Those presenting papers and their topics were: Dr. Francis J. Braceland, F.A.C.P., Hartford, Conn., "Role of the Family Physician in Psychiatric Problems"; Dr. Franklin H. Top, F.A.C.P., Iowa City, "Development of Communicable Disease and Control"; Dr. Arthur M. Master, F.A.C.P., New York City, "New Developments in Treatment of Coronary Occlusion"; and Drs. A. Carlton Ernstene, F.A.C.P., and Penn G. Skillern (Associate), Cleveland, participated in "Medical Symposium on 'The Newer Therapeutic Tools.'"

Dr. William Dameshek, F.A.C.P., Boston, speaking on "Bone Marrow Failure," was one of the principal out-of-state speakers at the Sixth Annual Combined Meeting of the New Hampshire and Vermont State Medical Societies at Bretton Woods, N. H., Sept. 29-Oct. 1.

"Diagnosis and Treatment of Certain Anemias" was the subject presented by Dr. Maurice E. Leonard, F.A.C.P., San Francisco, at the 52nd Annual Meeting of the Western Association of Railway Surgeons in Las Vegas, Nev., Sept. 22-24.

The Seventh Annual Refresher Course in Medicine for the General Practitioner was held by the Vancouver (B. C.) General Hospital Nov. 16-18. Members of the hospital staff taking part in the program included: Dr. George F. Strong, A.C.P.

President, Dr. George A. Davidson, F.A.C.P., Dr. Russell A. Palmer, F.A.C.P., Dr. Robert B. Kerr, F.A.C.P., Dr. William W. Simpson, F.A.C.P., and Dr. Donald S. Munroe (Associate).

Drs. Louis G. Moench, F.A.C.P., Salt Lake City, J. Minott Stickney, F.A.C.P., Rochester, Minn., and J. Vernon Knight (Associate), Nashville, Tenn., were among the guest speakers at the Sixth Annual Scientific Assembly of the Texas Academy of General Practice at Lubbock Sept. 19-21.

The First Annual Conference on Child Treatment to be held by the Astor Home, Rhinebeck, N. Y., occurred on Oct. 10. Drs. Leo H. Bartemeier, F.A.C.P., Baltimore, Harvey J. Tompkins, F.A.C.P., Washington, D. C., and Earl A. Loomis, Jr., F.A.C.P., Pittsburgh, were among the participants.

A Symposium on The Rôle of Some of the Newer Vitamins in Human Metabolism and Nutrition, sponsored by The National Vitamin Foundation and Vanderbilt University School of Medicine, was held in Nashville, Tenn., Oct. 20-21. In addition to presiding at one of the sessions, Dr. Paul György, F.A.C.P., Philadelphia, led a discussion and also presented "The History of Vitamin B6"; Dr. Richard W. Vilter, F.A.C.P., Cincinnati, spoke on "The Metabolism of Vitamin B6 in Human Beings"; and Dr. William B. Bean, F.A.C.P., Iowa City, discussed "Pantothenic Acid Deficiency Induced in Human Adults"; Dr. David B. Coursin, F.A.C.P., Lancaster, Pa., and Dr. M. Wachstein, F.A.C.P., Brooklyn, also took part in the program. Their respective subjects were: "Pyridoxine Deficiency and Convulsions in Infancy," and "Evidence for Abnormal Vitamin B6 Metabolism in Pregnancy and Various Disease States."

Two members of the College were among the out-of-state speakers at the annual session of the Medical Society of the State of Pennsylvania, which convened in Pittsburgh Sept. 18-23. Dr. Frank H. Krusen, F.A.C.P., Rochester, Minn., discussed "Physical Medicine and Rehabilitation—Its Significance and Relationship to Other Specialties in Medicine," and Lt. Col. William H. Crosby, Jr., (MC), USA, (Associate), Washington, D. C., presented "Preservation of Blood by Freezing."

Among the guest panelists at the Thirtieth Annual Clinical Congress sponsored by the Connecticut State Medical Society and Yale University School of Medicine, and held in New Haven Sept. 14-15, were: Drs. John R. Neefe, F.A.C.P., Philadelphia, ("Infectious Hepatitis") and William A. Jeffers, F.A.C.P., Philadelphia, ("Therapy in Hypertension"). Dr. E. Hugh Luckey, F.A.C.P., New York City, spoke on "Intractable Heart Failure: Its Management."

Under the General Chairmanship of Dr. Oscar A. Sander, F.A.C.P., Milwaukee, Wis., the Second Symposium on Coal Workers Pneumoconiosis was presented at the Golden Clinic of the Memorial General Hospital, Elkins, W. Va., on Oct. 4. Among those participating in the program were: Dr. Thomas Parran, F.A.C.P., Dean of the Graduate School of Public Health, University of Pittsburgh School of Medicine, and Dr. Frank Princi, F.A.C.P., of Kettering Laboratory, University of Cincinnati College of Medicine.

Dr. Joseph L. Hollander, F.A.C.P., Philadelphia, and Dr. Joseph J. Bunim, F.A.C.P., Bethesda, Md., spoke respectively on "Diagnosis of Rheumatoid Arthritis" and "Treatment of Rheumatoid Arthritis" at the Third Annual Midwest Conference on Rheumatic Diseases. Among the other speakers and their topics were: Dr. Currier McEwen, F.A.C.P., New York City, "Diagnosis and Treatment of Rheumatic Fever"; Dr. Russell L. Cecil, F.A.C.P., New York City, "Osteoarthritis"; Dr. Richard H. Freyberg, F.A.C.P., New York City, "Diagnosis and Treatment of Rheumatoid Spondylitis"; Dr. Charley J. Smyth, F.A.C.P., Denver, "Gout"; and Dr. Edward W. Lowman (Associate), New York City, "Physical Medicine in Rheumatic Diseases." The meeting was held at the Henry Ford Hospital in Detroit on Oct. 5, and was sponsored by the Michigan Chapter of the Arthritis and Rheumatism Foundation and the Michigan Rheumatism Society; the University of Michigan Medical School, the Academy of General Practice, the Michigan State Medical Society, Wayne University College of Medicine, and the Wayne County Medical Society were co-sponsors.

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Dr. William G. Leaman, F.A.C.P., Philadelphia, discussed "Modern Management of Common Cardiac Emergencies" at a symposium entitled "Emergencies in General Practice" that was presented by the Erie County Chapter of the New York State Academy of General Practice and Lederle Laboratories, and was held Oct. 1, at the Hotel Statler, Buffalo.

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Dr. Laurence H. Kyle (Associate), Washington, D. C., spoke on "Changing Aspects of Thyroid Disease" at the Fiftieth Annual Scientific Session of the Eighth District Branch of the Medical Society of the State of New York; the meeting was held Sept. 28, at Niagara Falls.

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Drs. Charles K. Friedberg, F.A.C.P., New York City, Hugh H. Hussey, F.A.C.P., Washington, D. C., and Arthur J. Merrill (Associate), Atlanta, Ga., were the principal speakers at the Winston-Salem (N. C.) Heart Symposium that was held at the Robert E. Lee Hotel in Winston-Salem on Sept. 30.

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Among the guest speakers at the annual meeting of the Mid-Continent Psychiatric Association were: Drs. Harvey J. Tompkins, F.A.C.P., New York City, Gordon R. Kamman, F.A.C.P., St. Paul, Stewart G. Wolf, Jr., F.A.C.P., Oklahoma City, and Louis A. Schwartz, F.A.C.P., Detroit.

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Col. Ralph Thompson, after over 27 years of service, retired on August 30, 1955, from the U. S. Air Force Medical Corps, and will engage in the private practice of Pathology at the Alexandria and Circle Terrace Hospitals, Alexandria, Va.

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Dr. Robert H. Riley, F.A.C.P., Baltimore, Md., recently announced his intention to resign on Jan. 1, 1956, as Chairman of the Maryland State Board of Health, a position he has held for 27 years. Dr. Riley, who has been a Fellow of the College since 1931, celebrated his 76th birthday in August, but according to law, he is entitled to life tenure of office.

Capt. Elmer L. Caveny, (MC), USN, Retired, F.A.C.P., is now Professor and Chairman of the Department of Psychiatry at the Alabama Medical Center, Birmingham.

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Dr. Bernard I. Lewis, F.A.C.P., Iowa City, has recently been promoted to Associate Professor in the Department of Internal Medicine at the State University of Iowa College of Medicine. In October Dr. Lewis presented a paper entitled "Rauwolfia Serpentina in the Treatment of Coronary Artery Disease" at the annual meeting of the American Heart Association in New Orleans.

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Dr. Lawrence E. Putnam, F.A.C.P., Washington, D. C., was recently advanced to Assistant Clinical Professor of Medicine at George Washington University School of Medicine.

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Dr. Jackson H. Friedlander, F.A.C.P., former Chief of Professional Services at the Veterans Administration Hospital, Big Spring, Tex., has recently been appointed Chief of the Residency and Internship Division in the Veterans Administration.

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Dr. Thomas Fite Paine, Jr. (Associate), former faculty member of the University of Michigan Medical School, has recently become Professor of Microbiology and Chairman of the Department at the Alabama Medical Center in Birmingham.

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Dr. Eugene P. Campbell, F.A.C.P., who for the past ten years has been stationed at Rio de Janeiro, Brazil, as Chief of the Coöperative Public Health Program between Brazil and the United States, has now been transferred to Washington, D. C., as Deputy Chief of the Public Health Division of the International Coöperation Administration, under which the 42 Coöperative Public Health Programs operate around the world. The International Coöperation Administration is located at 806 Connecticut Ave., N. W., Washington 25, D. C.

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Dr. Duval H. Koonce, an Associate of the College, heretofore attached to the Air Force as Chief of Medical Service, 3201st Air Force Hospital, Eglin Air Force Base, Fla., has retired from that Service, and is now established in the private practice of Internal Medicine at 444 E. Main St., Jackson, Tenn.

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Capt. Gordon B. Tayloe, (MC), USN, F.A.C.P., has recently been detached for duty as the Assistant District Medical Officer for the Fifth Naval District. He was formerly Commanding Officer of the Naval Hospital, National Naval Medical Center, Bethesda, Md.

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Dr. Ralph Jones, Jr. (Associate), formerly of Philadelphia, is now Professor and Chairman of the Department of Medicine at Jackson Memorial Hospital, University of Miami School of Medicine.

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Dr. Douglas H. Sprunt, Sr., F.A.C.P., Memphis, Tenn., has recently been appointed a member of the Cancer Control Committee of the National Cancer Institute



of the U. S. Public Health Service. Dr. Sprunt is Chief of the Division of Pathology and Microbiology at the University of Tennessee College of Medicine.

Dr. James S. Glotfelty (Associate), former Manager of the Veterans Administration Hospital at Lebanon, Pa., has recently transferred to Durham, N. C., where he is Manager of the Veterans Administration Hospital in that city.

Rear Admiral H. Lamont Pugh, (MC), USN, F.A.C.P., former Inspector General of Medical Department Activities, recently became Commanding Officer of the National Naval Medical Center, Bethesda, Md.

Dr. Maurice Hardgrove, F.A.C.P., has served as the Chairman of the Organizational Committee for the formation of the Wisconsin Society of Internal Medicine. Its First Scientific Meeting was held at Monroe, Wis., September 17, 1955. The published purposes of the Society are:

1. To make available at all times to the people of Wisconsin all the benefits from the practice of Internal Medicine;
2. To unite the qualified Internists of Wisconsin in a representative group for the furtherance of the practice of Internal Medicine;
3. To study the scientific, economic, and social aspects of medicine in order to secure and maintain the highest standards of practice in Internal Medicine.

Under the Presidency of Dr. H. M. Coon, F.A.C.P., Madison, Wis., the 42nd Annual Meeting of the Mississippi Valley Conference on Tuberculosis was held in Des Moines, Iowa, on Oct. 13-15. During the Conference the Mississippi Valley Trudeau Society, with Dr. Ejvind P. K. Fenger, F.A.C.P., Oak Terrace, Minn., as President, also held a scientific session; among the speakers was Dr. Arthur M. Olsen, F.A.C.P., Rochester, Minn., who discussed "Inhalation Therapy in Pulmonary Diseases." Dr. Walter L. Bierring, M.A.C.P., Des Moines, presided at a joint evening session on "World Health Problems and Tuberculosis."

## THIRTY-SEVENTH ANNUAL SESSION OF THE AMERICAN COLLEGE OF PHYSICIANS AT LOS ANGELES

### Headquarters:

Scientific Program and Technical Exhibit—Shrine Auditorium.

Hotel Headquarters: Los Angeles Biltmore and Statler-Hilton Hotels.

### Program:

General Sessions, Morning Lectures and Symposia—under direction of Dr. George F. Strong, President of the College, 925 W. Georgia St., Vancouver, B. C.

Clinics, Panels, Clinical Pathological Conferences, Color Television Demonstrations and Clinics, Arrangements, Publicity, and Entertainment—under Dr. George C. Griffith, General Chairman, 1200 N. State St., Los Angeles 33, Calif.

Technical Exhibits, Business Management, etc.—directed by Mr. E. R. Loveland, Executive Secretary, and staff, American College of Physicians, 4200 Pine St., Philadelphia 4, Pa.

The Program is essentially completed. The February, 1956, issue of the *ANNALS OF INTERNAL MEDICINE* will be the Convention Number and will contain the detailed program and all relevant data.

Post-Convention Tour to Hawaii—Conductor in charge, Mr. Joseph P. Sims, Jr., Raymond-Whitcomb, Inc., 1600 Walnut St., Philadelphia 3, Pa. Program and details appeared in the News Notes Section, last month's issue of this journal. A new itinerary with final details now available from Mr. Sims, the Conductor.

Alternate Post-Convention Tour, Los Angeles to the East—For those not interested in the Hawaii tour, a special tour via the Baltimore & Ohio Railway, the Santa Fe Railroad, and others, will be set up for the return trip from Los Angeles to the East, passing through, with specially scheduled stops, points of greatest interest in California, Nevada, Colorado and other states. Inquiries for folders and details should be addressed to Mr. Martin X. Ivers, Atchison, Topeka and Santa Fe Railway Co., 1416 Lincoln-Liberty Bldg., Philadelphia 7, Pa.

## ADVANCE REPORT BY THE GENERAL CHAIRMAN AND THE LOS ANGELES COMMITTEE ON PREPARATIONS FOR THE 37TH AN- NUAL SESSION OF THE COLLEGE

Arrangements for the thirty-seventh annual session of the College, scheduled for April 16-20, 1956, in Los Angeles, rapidly are being completed by the local committee.

Although registration forms will be sent early in the New Year, convention information which will be helpful in making plans for attending the session is included in the following news notes:



MAP OF DOWNTOWN LOS ANGELES SHOWING KEY  
CONVENTION LOCATIONS

- |                                           |                       |
|-------------------------------------------|-----------------------|
| A. Shrine Auditorium and Convention Hall  | 5. Alexandria Hotel   |
| B. Union Station                          | 6. Chapman Park Hotel |
| 1. Biltmore Hotel—Convention headquarters | 7. Commodore Hotel    |
| 2. Statler Hotel—Secondary headquarters   | 8. Mayfair Hotel      |
| 3. Ambassador Hotel                       | 9. Mayflower Hotel    |
| 4. Beverly Hilton Hotel                   | 10. Town House        |

*Hotels:* Indications are that an unprecedented number of physicians will attend the session, and while there are a number of excellent hotels in the City of the Angels, it is apparent that early reservations will be wise. Room assignments will be made in the order received by the ACP Housing Bureau in Los Angeles, with officials suggesting a deadline of March 15, 1956.

*Transportation:* A shuttle bus system has been arranged to the Shrine Auditorium between 8 a.m. and 5:30 p.m. and leaving from three central points—the Biltmore Hotel, the Ambassador Hotel, and the Beverly Hills area, for the minimal charge of \$6.00 to be paid at the time of registration.

The busses will carry only 40 people, and there will be no crowding, with a seat assigned to each person taking advantage of this service. The charge represents a saving of between \$5.00 and \$15.00 over taxi charges. There are no adequate public transportation facilities which can be used.

*Entertainment:* Extracurricular activities planned in connection with the session will include a concert Monday evening by the Los Angeles Philharmonic Orchestra and the Roger Wagner Choir; dinner and dancing and the floor show at the famous Hollywood theater-restaurant, the Moulin Rouge; the President's reception and ball Wednesday evening in the ballroom of the Biltmore Hotel, following the convocation; and the annual banquet Thursday evening in the Grand Ballroom of the Beverly Hilton Hotel.

Here again early planning will be necessary for participation in these events, for reservations will be made in the order in which they are received.

*For the Ladies:* The Women's Entertainment Committee has planned special events with the thought of making the entertainment program attractive to all members of the family, and extends a cordial invitation to the wives and families of College members to participate.

Monday, April 16, has been designated "Welcome Day," with coffee served throughout the day in the Women's Headquarters in the Galeria Room of the Biltmore Hotel and a reception for the wives of men to be inducted at the 37th Session scheduled for 10 a.m. to noon.

Tours of the interesting cities and beaches have been set, and will include Disneyland, the Pacific Coast, Hollywood, Beverly Hills, television studios and the famed Farmers' Market have been planned, as well as a luncheon and fashion show which is set for Wednesday at the Beverly Hilton Hotel.

Tickets for the tours and luncheon may be purchased at Women's Information booths. These will be located in the Biltmore, Statler, Ambassador and Beverly Hilton Hotels for the convenience of wives and families attending the meeting.

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